FEEDSTUFFS

★ A WEEKLY NEWSPAPER ★

FOR THE FEED MANUFACTURER, JOBBER, BROKER and DEALER

Volume 30—Number 40 | OCTOBER 4, 1958 | 1 Year $5, 2 Years $8

Allied Mills Moves To Buy Universal Mills in Ft. Worth

CHICAGO — Discussions are in progress regarding the acquisition of Universal Mills, Inc., Ft. Worth, by Allied Mills, Inc., Chicago, it was announced this week.

Officials of the Chicago firm, which operates in more than 30 states, said they have had under consideration for some time the expansion of activities into the area served by Universal Mills.

Allied Mills operates 11 large feed manufacturing plants in the Midwest, East and Southeast. Spokesmen for the firm said the distribution of Red Chain Feeds manufactured by Universal Mills fits in ideally with their expansion plans.

Universal Mills has been in business in Ft. Worth 36 years, and has become widely known for its manufacture of poultry and livestock feeds.

Complete details of the transaction are not yet available.

Purina Purchases Athens Milling Co.

ST. LOUIS — The Ralston Purina Co. has purchased the properties of the Athens (Ga.) Milling Co., according to an announcement this week by Raymond E. Rowland, president of Purina.

Mr. Rowland said the Purina feed mill at Gainesville, Ga., was finding it increasingly difficult to keep abreast of the growing demand for Purina feeds in the north Georgia broiler area, which made it advisable to provide additional facilities nearby.

Athens Milling Co. — headed by Sherman Applebaum, president—was founded in 1954 and has been operating its modern feed mill since August, 1955. The mill is a modern push-button plant. New facilities for handling bulk finished feeds were recently installed.

The Athens plant will be the third Purina feed mill in Georgia. The other two are located in Macon and Gainesville.

AT PENNSYLVANIA CONVENTION

Changes in Farming, Ways Of Doing Business Stressed

By GEORGE L. GATES and PAUL L. DITTEMORE
Feedstuffs Staff

PITTSBURGH — A program designed to help members of the Pennsylvania Millers & Feed Dealers Assn. improve their business practices and better understand their changing role in serving agriculture attracted attendance of close to 400 at the organization's annual convention Sept. 25-27 at the Penn-Sheraton Hotel.

At the concluding business session members of the association took steps to continue to oppose proposed state legislation which would require bonding of farm produce dealers. Activity of the association was an important factor in defeating 12 bills on the matter introduced in the last session of the legislature.

Agitation for such regulation has stemmed from farm organizations who claim members have been having difficulties with itinerant produce dealers. The position of the feed organization is that the problem could be solved more directly without requiring bonding of all produce dealers, including feed dealers.

In other resolutions the association continued its stand opposing tax inequality for cooperatives and stated its opposition to legislation which would require compulsory check-offs for obtaining promotion and research funds for various farm commodities.

Robert I. Aten, D. D. Fritch Mill Co., Macungie, was elected president to succeed B. E. Zechman, Zechman's Flour Mill, Potts Grove. Orville E. Hauck, Hauck Feed & Supply, Kitztown, was named first vice president; T. Luke Toomey, Toomey's Mill, Wila, second vice president; L. D. Ritchey, Curry Supply Co., Curryville, third vice president; John L. Zug, John L. Zug Feed Mill, Richland, treasurer, and Richard I. Ammon, Ephrata, executive secretary.

Elected to the board of directors were Mr. Zechman; Mike Brown, F. M. Brown's Sons, Inc., Sinking Spring; Milton Godshalk, Flory Milling Co., Bangor; George I. Altman, Altman's Mills, Irwin; Paul J. Green, Farmers Supply Co., Walkersville,

(Turn to PENNSYLVANIA, page 107)

USDA Notes Prospects for Low Hog, High Cattle Prices

WASHINGTON—Reports from the U.S. Department of Agriculture's Agricultural Marketing Service have substantiated earlier predictions that next year, prices of cattle will continue fairly high, but prices of hogs will be lower. The reports were contained in two of the service's publications, "The Livestock and Meat Situation" and "The Demand and Price Situation."

Cattle numbers next Jan. 1, will be near the high mark reached in 1956, USDA predicted, and in 1960 and later years, numbers probably will set successive new highs. Since the inventory expansion is still in the initial stage, marketings in 1959 are not likely to increase much, but if the build up in numbers is rapid, expansion in marketings later would be large and prices could fall sharply.

Hog Production

Conditions for expansion in hog production have been favorable because the price of hogs has been higher and the price of corn has been declining. The hog-corn price ratio hit 20.6 in February, marking the first time since records began in 1909 that the ratio exceeded 20. The long-term average is 12.5 to 13 and the ratio has continued above the average since February. In August it was 17.9.

Actually, the upturn in hog production has already started, USDA pointed out. In June, producers planned to have 13% more sows farrow for the fall pig crop. In September, reports from nine major states showed the plans being carried out and even being exceeded somewhat.

USDA sees hog prices this fall declining at only about the normal seasonal rate, and they may average about the same as last fall. However, prices this winter will show little or no seasonal recovery, and prices thereafter will be appreciably lower than in corresponding periods of 1958.

(Turn to LIVESTOCK, page 103)

Buffalo Exchange Protests Serious Boxcar Shortage

BUFFALO—Flour and feed mills here are threatened with production cuts if a serious shortage of boxcars is not corrected, the Buffalo Corn Exchange has warned the Association of American Railroads.

In a telephone protest Sept. 26 to the AAR's Washington office, Frank Catanzarite, executive secretary of the exchange, said the shortage and a rapidly deteriorating condition of the cars available come at a time when general business activity is still under a year ago. "A slight pickup in general business will mean a serious boxcar shortage and production cuts by Buffalo mills," Mr. Catanzarite declared. "Boxcar shortages have been with us for a long time in periods of booming business, but now we're having one when over-all business is relatively slack. We're alarmed. The cars that are available are in the poorest condition we've ever seen. The railroads act as if they are going out of business."

The Co-operative GLF Exchange, Inc., said that even a light increase

(Turn to BOXCARS, page 107)

Eastern States Approves Merger With Egg Co-ops

WEST SPRINGFIELD, MASS.—Approval of a plan which could lead to a merger of several New England egg marketing cooperatives and the Eastern States Farmers Exchange, Inc., has been voted by the Eastern States board of directors.

"This action makes Eastern States officially receptive to a program to establish marketing operations," stated Mark N. Witmer, Dalmatia, Pa., president of Eastern States.

"If the merger plan is accepted by the boards of the poultry cooperatives, the final decision to merge or not will be resolved—as legally required—in membership meetings of the cooperatives involved.

"We have reason to believe the merger program will be enthusiastically accepted by the members of these cooperatives."

(A report that the merger was under consideration appeared in Feedstuffs Sept. 20, page 1.)

First Legal Step

The action by the Eastern States directors is the first of the legal

(Turn to EASTERN, page 106)

FEEDSTUFFS *Features This Week*

LINEAR PROGRAMMING: The second in a series of articles on linear programming will be found on **page 30**.

MODERNIZATION: A large feed manufacturing plant's modernization program is described on **page 10**.

POULTRY INVESTIGATION: The complete text of the Brown subcommittee's report on its study of broiler industry problems appears on **page 50**.

SELLING: Feed firms' sales and merchandising programs are outlined in articles on **pages 27** and **37**.

RESTRICTED FEEDING: A brief discussion of restricted feeding of replacement birds is on **page 80**.

MEDICATED FEED: See **page 85** for a review of information on medicated feeds and regulation of these feeds.

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FEEDSTUFFS®

A Weekly Newspaper Published by
THE MILLER PUBLISHING CO.
2501 Wayzata Blvd., Minneapolis, Minn.
Address Mail to:
Box 67, Minneapolis 40, Minn.
Telephone FRanklin 4-5200
All Offices Serviced by Bell System Teletype

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Correspondence regarding subscriptions, changes of address, etc., should be sent to Circulation Manager, Feedstuffs, Box 67, Minneapolis 40, Minn. Single copies 50¢. Subscription rates: One year $5, two years $8, in the U.S., U.S. possessions, Canada and Pan-America. Add $3 a year for postage to other countries. Readers are urged to give prompt notice of change of address and to anticipate future changes by at least two weeks' advance notice. Ask postman for form 22-S. Feedstuffs accepts subscriptions only through its own offices; no subscription solicitors are employed or recognized. Associated publications: The Northwestern Miller, The American Baker, Milling Production, Croplife, Farm Store Merchandising.

Entered as second-class matter Feb. 25, 1947, at the post office at Minneapolis, Minn., under the Act of Mar. 3, 1879

The regional circulation of this issue is concentrated in the northeastern states

Time to Manage

FINDING TIME TO DO everything one feels he must do during any given day is a problem most people must face. Often the most pressing things get first call, even though they may not be most important from the standpoint of long-term achievement. Compromising the demands of immediate activities with those intended to produce progress for a business involve some difficult decisions, particularly for people charged with management responsibilities.

Certainly not the least enmeshed in problems of this type are managers of smaller feed mills and elevators. The more successful operators of these businesses probably have made more progress in finding time to manage than have others in the same line who find that moving ahead is an inch-by-inch proposition. One cannot minimize the problems a mill manager has in keeping his business functioning, because the variety of duties in such an operation would stun the imagination of operators of many other types of business who have a narrower aim and area of service.

An example of how a mill manager spends his time, presented in a Feedstuffs article last week illustrates very well a typical situation. The example was described by W. S. Farris, Purdue University agricultural economist, and it merits repeating:

"During a typical one-hour period it was found that one manager performed 27 different items of work. The manager contacted several customers, weighed four loads of feed, made out several tickets, ran three tests on grain, gave directions to help in the feed mill, answered the phone several times, described location of customer residences to feed truck drivers and made a couple of attempts at some study and planning during this hour. Business was admittedly a little slow this day . . . "

Dr. Farris, who has spent a considerable amount of time and effort studying the operations of mills and elevators, expresses concern about the fact that with all these different items of work claiming his time, the manager has little time for management in the sense of planning and organizing the business.

A SURVEY CONDUCTED in connection with his studies showed that elevator and feed mill managers spent about 85% of their time in four types of work—office work (mostly clerical) 40%, handling customers 20%, giving instructions 16% and handling tickets, orders or statements 9%.

Dr. Farris also reports that in preparing a check list of duties for these managers, with the help of several managers, what was thought to be an all-inclusive list of their activities was put together. However, it was discovered in the course of making time studies that it was necessary to include 20 to 30% of the manager's time in a category labeled, "other work." Many of these duties, among which were listed burning trash and filling the soft drink machine, could easily have been done by other employees and thus saved some of the day's time for real managing, he comments.

Dr. Farris offers this advice: "Cultivating the art of delegating responsibility, studying your day's activities to see what you do and what can be eliminated, and concentrating on the most important problems rather than routine items, will gain needed management time."

THESE SUGGESTIONS WERE MADE by Dr. Farris to feed men attending the recent Grain & Feed Dealers National Assn. convention. Some similar advice was given to members of the Pennsylvania Millers and Feed Dealers Assn. at their convention last week by Dr. Richard Phillips, Iowa State College economist, who also has done a great deal of research on the problems of retail establishments serving farmers.

Dr. Phillips described the functions of management as being three-fold, yet closely related and somewhat overlapping. They include planning, which means both for next week and for several years ahead; providing direction, which includes delegation of responsibilities and formulating policies, and managerial control, or the supervisory function of checking on employees' performance.

"Easier said than done," a mill manager might comment when the phone is ringing, trucks are lined up at the scale and a clerk has forgotten where some item is stored. But in view of the way business is growing for mills whose managers take the time to really manage, the detail-busy man is somehow going to have to find time to organize his activities in such a way that he can perform his real function well, too.

A FEEDSTUFFS FORMULA FEEDS: HOW'S BUSINESS? FEATURE

Formula feed business continued to be good although somewhat spotty during the past week as turkey demand tapered off in most areas and dairy demand was somewhat slow in its seasonal upturn because of generally good pastures. But continued good hog feed sales and slowly increasing demand for layer rations were sufficient to hold business at a generally good level. The busy fall season on farms and anticipation of lower prices following the harvest season were seen as deterrents to business. The feedstuffs price index edged forward to 83.2 this week compared with 82.7 the previous week and 75.8 at the same time a year ago, and the feed grain index climbed to 65.8 as against 65.6 a week ago and 65.5 during the same week a year ago. The hog-corn ratio based on Chicago prices was 16.9, compared with 16.5 a week earlier and 14.4 a year earlier. (Ingredient prices in detail on pages 104-106.)

Northwest

Soybean harvesting and the anticipation of lower prices following the harvest were pointed out this week as reasons for a slightly slower pace of formula feed business.

Feed mill representatives reported that a tapering off in turkey feeds is now very evident and that sales of hog feeds were about as good as a week ago or off slightly. Layer feeds are showing a slow increase, they said, but the dairy business, which normally shows some signs of picking up at this time of the year, was still off because of good pastures.

They emphasized that business is holding up well, however, when compared with a normal October. The mills had not reduced operating time during the week, although business was quieter.

Prices for the coming week, they said, would be about unchanged.

A general pickup in demand is expected when the harvest is completed and prices reflect the abundant supplies of new crop grains.

Southwest

The formula feed sales picture in the Southwest seems spotty this week. In general, however, the pace is about equal to or a little slower than a week ago. One feed manufacturer put it this way: "They aren't banging down the door to get feed like they were a few weeks ago, but we are still finding business pretty good."

Running time is five days for most mills, and will average at about that level. Some mills are running part or all of a sixth day, but to offset that there are mills running only four days.

Those who report a slower tendency see it in most lines, leading them to the belief that feeders and dealers are just not buying any more feed now than they have to. The lower price trend could be the reason for part of that tendency, buyers waiting for the market to bottom out before stocking up. Farmers are also busy getting ready for winter—filling silos, planting wheat, harvesting corn and milo and doing the other fall chores that have been delayed many times by rains.

Hog and pig feeds continue to be leading items. Laying feeds are also in good demand and the turkey feed volume is still large, although the peak has been reached. Cattle feed is moving well for some mills who had the business booked earlier, and is slow for other mills who are waiting to do some booking. Broiler volume is about the same, but the low prices are the cause of some pessimism. Dairy feed is doing fairly well.

Price lists will be unchanged to down $2 for next week. Soybean oil meal, corn and milo, and millfeed have been among the weaker items to pace the drop.

Northeast

Feed manufacturers closed out a good month, with sales about 3% above a year ago. However, demand started to slip in the final days of September and the decline has carried over into this month. As a result, feed mills had to trim their running time a little.

Turkey feed demand is slipping as more and more of the larger birds are being slaughtered. Egg mashes, as usual, did well. Dairy feeds have held up well and broiler feeds have been going along fairly well.

Demand for broilers was good but supplies were a little too heavy to maintain prices. Levels in the East ranged from a high of 17¢ lb. at Delmarva to a low of 15¢ in the North and the South.

Egg prices held about unchanged.

Nearby corn was up 1¢, but deferred deliveries were generally weak. Feed wheat advanced 3¢, and oats and barley were unchanged.

Nearby soybean oil meal was about steady but deferred soybeans were down $2 to $3. Linseed oil meal rose 50¢ to $1. Cottonseed oil meal was practically unchanged and gluten meal was steady.

Fish meal was practically unobtainable. Meat scraps were unchanged, but barely held their own and a further decline is likely.

Alfalfa meal is beginning to get a little attention and prices rose $1. Hominy declined $1.50 to $2. Brewers' dried grains were steady to 50¢ higher. Distillers' grains were scarce and about steady. Gluten feed held unchanged.

Bran and middlings backed down under consumer resistance.

Running time of formula feed manufacturers declined to an average of 36 hours last week from 40 hours in the previous week.

Southeast

Feed business in the Southeast has been steady this week. Most major feed ingredients have weakened price-wise, due mainly to heavily increasing supplies as new crop materials start to build toward the peak of the season's movement.

The shelled corn market has reached what most dealers feel is about the season's low, with shelling operations in full swing. Supplies of ground snap corn, relatively abundant at the present time, are expected to become increasingly short with the coming of cold weather and increasing demand. Prices for after-

(Turn to MARKETS, page 108)

The Case of the Talking PIGS

THE RESULTS OF THIS INDEPENDENTLY CONDUCTED TEST SPEAK FOR THEMSELVES

1. One to two pounds of SUCRO FLAVOR replaced 400 pounds of sugar
2. Saved $15 per ton of feed
3. Pigs on SUCRO FLAVORed feed made higher daily gains
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Pigs can tell you a lot about SUCRO FLAVOR . . . the sweet concentration of taste proven feed flavors, sweeteners and BHT antioxidant in soluble powdered form. It adds new appetite stimulating aroma and gives feed a fresh, long-lasting sweet taste. There is no objectionable after-taste common with ordinary saccharin. Appetite fatigue common with excessive amounts of plain sugar is eliminated.

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SUCRO FLAVOR makes better creep feeds, better starter feeds, better wormer and other medicated feeds, better high fat feeds, better mineral feeds, better sweet feeds. Makes old fashioned "high sweet" feeds obsolete.

Act now! . . . get all the important money saving, sales promoting facts on SUCRO FLAVOR. Send the coupon below for trial order at reduced price or FREE SAMPLE.

4 WEEK TEST ON 4 LOTS OF 3-WEEK-OLD PIGS					
	Average Starting Weight	Total Gain	Average Daily Feed Intake	Feed Per Pound of Gain	Average Daily Gains
Basal Ration	17.8	23.7	1.30	1.53	.85
Basal Ration Containing 20% Sugar	18.6	27.5	1.72	1.75	.98
Basal Ration Containing 1/10% SUCRO FLAVOR	17.3	27.1	1.45	1.49	.97
Basal Ration Containing 1/10% SUCRO FLAVOR	17.9	31.1	1.67	1.50	1.11

Conclusions from feeding experiment report by Laboratory of Vitamin Technology are as follows:

"Under the conditions of this experiment, 3-week old pigs fed basal ration with sugar or Sucro-Flavor and raised on concrete showed better weight gains than those fed basal ration alone. Feed efficiency on Sucro Flavor was equal to that on basal alone, and better than that on sugar. Therefore, in one ton of pig starter ration, one or two pounds of Sucro-Flavor was found to be equivalent to or better than 400 pounds of cane sugar with respect to weight gain and feed efficiency."

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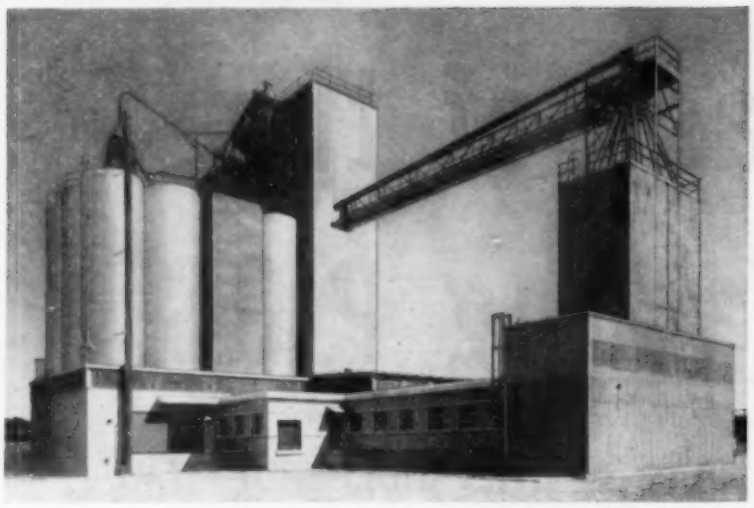

Here is McMillen Feed Mills' new 200-tons-per-day plant at Des Moines. This "auto-syntronic" mill is said to be one of the most efficient and highly automated feed plants in the country. On the left above are the ingredient storage bins and mixing area. On the right are facilities for handling and loading out bulk feed. The warehouse area is not visible in this picture.

McMillen Feed Mills Opens New Automatic Plant at Des Moines

DES MOINES — Some 6,000 persons turned out this week for the formal opening of McMillen Feed Mills' new "auto-syntronic" feed manufacturing plant at Des Moines.

The new plant, which combines storage, conveying and mixing systems in a manner said to be unique in the industry, is described as one of the most efficient and highly automated feed mills in the country today.

Initial production calls for output of 200 tons of concentrates or complete feeds in an eight-hour day, with a total administrative and production force of 20 persons.

An open house at the new mill, a barbecue luncheon and a formal dedication ceremony at the Des Moines Veterans' Auditorium attracted approximately 6,000 Iowa farmers and their Master Mix dealers. Bringing the visitors to Des Moines and shuttling them between the plant and the downtown auditorium were 110 buses, the largest number ever chartered through the Greyhound organization in Iowa.

The dedication program featured talks by McMillen officials, Gov. Herschel C. Loveless of Iowa, and Dr. George M. Browning of Iowa State College, plus entertainment by humorist Herb Shriner and the Ice Follies skating troupe. Among the McMillen officials on hand were Dale W. McMillen, founder of Central Soya Co. and its McMillen Feed Mills division; Harold W. McMillen, chairman of the board, and Dale W. McMillen, Jr., president. Dr. J. L. Krider, vice president, was master of ceremonies.

The company, which is headquartered at Ft. Wayne, Ind., was founded in 1934. The opening of the new feed mill marked the beginning of the firm's 25th year of operation.

The Des Moines plant is McMillen's seventh feed mill and the first west of the Mississippi River. The firm now makes feed for sale in more than 30 states and has a feed manufacturing capacity of some 1 million tons annually on an eight-hour day basis.

Among features of the highly automatic new plant are control panels on the first floor which control all handling and processing operations in the entire plant. Proportioning and mixing of both percentage ingredients and the principal ingredients are handled through a system which includes the use of IBM cards

(Turn to McMILLEN, page 106)

Ezra Taft Benson Explains Reasons For Low-Level Corn Price Supports

WASHINGTON — Ezra Taft Benson, secretary of agriculture, has described the 1958 support level of $1.06 bu. for corn grown by those who do not comply with acreage allotments as "an unusual and emergency type of provision." He added that the U.S. Department of Agriculture does not plan to continue this type of emergency action beyond the 1958 crop year.

"If farmers in the Nov. 25 referendum approve the new corn program which has been made available to them, there will be no problem of 'non-compliance' corn in 1959. All corn will be eligible for price support on the same basis, and all producers will be protected," the secretary explained.

(The establishment of a $1.06 corn support level for non-compliance corn was reported in Feedstuffs, Sept. 27, page 1. The 1958 advance minimum national average support for corn grown in compliance with acreage allotments is $1.36 bu. This represents the same differential, 30¢ bu., as in 1957—$1.40 bu. and $1.10 bu.)

Explaining the USDA decision to offer non-compliance corn price supports, Mr. Benson said, "Under the conditions this year, we reached the conclusion that the special supports should be made available. Once again, the unworkable corn allotments kept most producers from complying with their provisions. Farmers made the decision to plant corn instead. On the basis of the latest available information and statistics, it is now estimated that not more than 12 to 13% of all corn harvested this year in commercial areas will be eligible for the regular price support.

"We also have an all-time record total supply of corn and other feed grains for the coming marketing year.

"In these circumstances, we must do what we can to help stabilize current feed grain and future livestock markets. It is very important that we reduce incentives for unwise over-expansion of hogs and other livestock. We have held the 'across-the-board' support at the same relative level as last year, in spite of the greatly increased feed grain supply.

"The special supports are in line with the principles outlined by Congress in the new corn program. They will offer price protection this year for all corn producers in commercial counties."

Both levels of corn support will be carried out through Commodity Credit Corp. loans and purchase agreements.

Delmarva Broiler Prices Fall to 15½c

SALISBURY, MD.—Broiler prices in Delmarva were down to an average of 15.5¢ lb. last week, a slight drop from the 15.8¢ average a week earlier.

A spokesman for the Maryland-Delaware crop reporting service said that broiler prices have declined earlier than usual this year and at a time when seasonal demand is normally expected to remain strong.

From the beginning of the year through June, broiler prices had been well above 1957, despite a record large production. A price reaction began in July, when prices to farmers averaged 19.4¢ lb., down from 21¢ in June. In August, the nationwide average price was 18¢, and more recent daily prices in important producing areas have been 16¢ and 15¢. Last year the August price was 20.7¢ and the September price 18.1¢.

There does not seem to be any relief in sight, either, reports show. Last week, the egg set in the 22 most important broiler producing states was 36,996,000. This was 2% less than the previous week but 12% above the corresponding week a year ago.

Growers in the 22 states placed 24,896,000 broiler chicks. This was slightly more than the previous week and 3% above the corresponding week a year ago.

New Nesting Material Introduced by Firm

LITHONIA, GA. — After extensive testing the Stone Mountain Grit Co. of Lithonia is announcing "Sta-Kleen," a nesting material made of processed ground clay.

According to company spokesmen, the new nesting product can reduce cracked shells and dirty eggs.

Packed in 50-lb. bags, the material is rare, lightweight absorbent clay which retains resilient consistency, the company said.

Each bag will provide enough material for 15 to 20 nests, the company says, and the cost amounts to a few cents per nest.

Dr. G. F. Heuser, Stone Mountain research director, said the material is advantageous because it "stays put" in the nests and the soft cushion-like property makes for less egg breakage.

The firm has tested the material in recent months at its research center as well as at a number of poultry farms in the South and Midwest. A report from one farm, with 160,000 pullets, claimed that cracked and dirty eggs were reduced some 55%, the company said.

NESTING MATERIAL—This young lady is demonstrating how easily Sta-Kleen nesting material can be sifted for re-use. The material is produced by the Stone Mountain Grit Co. of Lithonia, Ga.

R. Hal Dean

R. H. Dean Elected Purina Vice President

ST. LOUIS—R. Hal Dean, assistant to the president of Ralston Purina Co., was elected a vice president of the company at a board of directors meeting last week, it was announced by Donald Danforth, board chairman.

Mr. Dean will continue as assistant to the president and will serve as president of the company's international division.

At the same time it was announced that N. K. Stevens has been named president of Ralston Purina De Mexico, S.A. De C.V., a part of the international division. His headquarters will be in Mexico City.

Mr. Dean, 42, has been with Ralston Purina for 20 years.

Minneapolis Exchange Names Philip S. Duff To Post of President

MINNEAPOLIS — Philip S. Duff, vice president of Archer-Daniels-Midland Co., was elected president of the Minneapolis Grain Exchange at the recent annual meeting to succeed G. W. P. Heffelfinger, vice president of F. H. Peavey & Co.

E. E. Quinn, vice president of Benson Quinn Co., was elected second vice president to succeed Allan Q. Moore, vice president of Pillsbury Co., who moved up to first vice president. A newly-elected member of the board of directors is E. J. Barry, representing terminal elevator concerns. He is in charge of grain merchandising for Farmers Union Grain Terminal Assn.

Reelected to the board of directors were Allan L. Burdick, C. H. McCarthy, Stuart F. Seidl, Robert L. Searles and P. Norman Ness.

E. S. Roth Heads Sales Managers Association

FAIRBURY, ILL.—Elmer S. Roth has been named president of the Illinois Feed Sales Managers Assn., an affiliate of the Illinois Feed Assn.

Mr. Roth is vice president and general sales manager of Honeggers' & Co., Inc., Fairbury. He is one of the founders of the association, and was on the charter board of directors for two years.

Mr. Roth has been associated with Honeggers' for 19 years, serving in various sales capacities during that time.

MANEY BROS. MILL & ELEV. CO.
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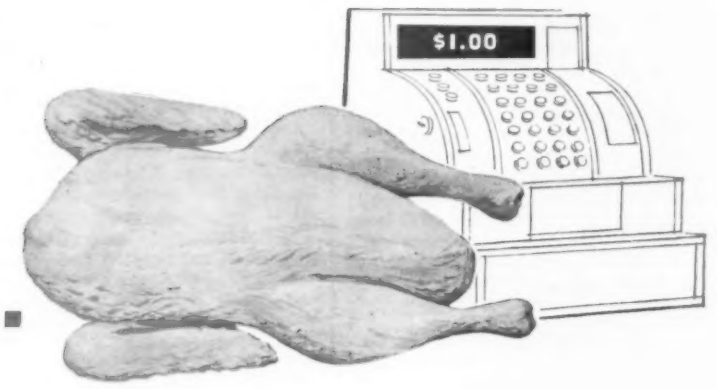

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When it comes to buying poultry, housewives today know what they want . . . and what they want is that "Golden Look". Likewise, tests everywhere are proving that high grade dehydrated alfalfa and that "Golden Look" go hand in hand. The secret to it all is a vital pigment known as xanthophyll. Small's Dehydrated Alfalfa offers you a rich source of xanthophyll in a form that is both economical and easy to use, plus dozens of other vital nutritive elements.

Xanthophyll is an extra benefit . . . at no extra cost. So start using Small's Dehydrated Alfalfa in your poultry feeds today, and poultry raisers will quickly recognize that *yours* is the type of feed that they must have to produce the kind of poultry and eggs that housewives everywhere are demanding.

FREE . . . WRITE TODAY FOR IMPORTANT ARTICLE ON PIGMENTATION! Appearing in a recent issue of Feedstuffs, this article reports on research showing effect of dehydrated alfalfa in producing the kind of pigmentation poultry buyers today are demanding, also other valuable data for feed manufacturers.

Archer-Daniels-Midland Company
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P. O. Box 356 Kansas City 41, Mo.

Please send me article on "Pigmentation Studies with Broilers and Laying Hens."

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Higher Price Seen For Soybean Meal In Coming Months

WASHINGTON — Soybean meal prices during the months of October-December, 1958, are likely to average moderately above the $45 ton average in the comparable period last year, the U.S. Department of Agriculture Fats & Oils Situation report indicates. The report also states that requirements for meal during the 1958-59 feeding year are likely to be higher.

The increased requirements are due to a prospective 3% increase in high protein feed consuming animal units along with a continuation of the uptrend in the feeding rate of high protein feeds per animal unit.

Soybean meal prices (bulk, Decatur) were relatively stable at the low level of $45 during October-December a year ago, the report said. This was $2 a ton lower than the same three months of 1956-57. Prices then moved up to a season's peak in July at $68.60 ton, a 47% increase over July, 1957. Prices since have declined, but were still $6 ahead of a year earlier in mid-September.

Prices for soybean meal during the year just ended were stronger than expected because soybean meal output—though a record—failed to keep pace with increases in broiler production, the sharp increase in volume of hog feeds sold, and the high prices of hogs and cattle, the report said. During the first 10 months of the feeding year just completed, about 9.1 million tons of meal were fed to livestock and poultry, 600,000 tons or 7% more than in the same period a year earlier.

Lower Oil Prices

Prospects for soybean oil during the three-month period, meanwhile, are that oil prices will average somewhat lower than the 11.4¢ lb. a year earlier. The strong domestic demand for food fats of a year ago coupled with reduced supplies of cottonseed oil and lard helped maintain bean oil prices then. Although domestic demand is expected to continue strong this year, larger 1958-59 supplies of the competitive cottonseed oil and lard, as well as more bean oil, will exert downward pressure.

The report points out that as the outlook for soybean meal in 1958-59 appears to be more favorable than for oil, the value of meal obtained from a bushel of soybeans is likely to be somewhat higher than that of oil, as it was during the marketing year just ending.

Farm Prices

Farm prices for soybeans during most of the 1958 harvesting season are likely to dip under the support rate of $2.09 bu., but later in the season probably will return to near the

(Turn to SOYBEAN, page 108)

Leonard Thiele Named Mutual Millers Head

JAMESTOWN, N. Y. — Leonard Thiele, Thiele Coal & Feed Supply Co., North Tonawanda, N.Y., was elected president of the Mutual Millers & Feed Dealers Assn. at a recent meeting of the association directors.

Stanley Hitchings, Griggs & Ball Co., East Aurora, N.Y., was chosen vice president.

Mr. Thiele replaces Don Mattison, J. H. Gray Milling Co., Cattaraugus, N.Y., as president. Mr. Mattison will continue as a director.

An association announcement mentioned that Rudy Engel, Shamel Milling Co., East Concord, N.Y., has retired from the board of directors after nine years of service. During this time he served as president and vice president.

Allan O. Leskinen

Ciba Names Manager For Feed Additives

SUMMIT, N. J.—Allan O. Leskinen has been appointed manager of the recently established feed additive division of the sales department of Ciba Pharmaceutical Products, Inc. Announcement of Mr. Leskinen's appointment was made by Vincent A. Burgher, vice president in charge of sales.

Mr. Leskinen was graduated in 1949 from the Stockbridge school of agriculture, University of Massachusetts, with a major in animal husbandry. He is a native of Hubbardston, Mass., and since his graduation has been employed by companies connected with the formula feed manufacturing industry. Immediately prior to joining Ciba, Mr. Leskinen was assistant sales manager of the agricultural division of McKesson & Robbins, Inc., New York.

Company officials explained that the establishment of the feed additive division, as well as expanding its program of veterinary research, are part of the firm's program to develop new markets for its products.

Ciba Pharmaceutical Products is the U.S. subsidiary of Ciba, Ltd., Basle, Switzerland, a pharmaceutical manufacturing firm founded in 1884. Heretofore, Ciba has marketed its pharmaceutical products only to pharmacists, hospitals, physicians and veterinarians.

It holds the basic patents on the production of reserpine, the generic name of an alkaloid extracted from the roots of Rauwolfia serpentina, a plant commonly called snakeroot. Ciba's trade name for its reserpine derivative for treatment of humans is "Serpasil." It is used by physicians principally in the treatment of high blood pressure, nervous anxiety and similar disorders.

Dr. Alfred E. Earl, director of the company's veterinary reasearch program, reports that the application of the stress ameliorating effects of reserpine in livestock have been intensively studied by Ciba during the past three years and that results to date with "Sermix," a reserpine product produced for use in livestock, have been encouraging. He added that Sermix is currently being tested extensively under field conditions in poultry, sheep, beef cattle and swine.

Mr. Leskinen indicated that his company is also investigating the application of other Ciba products in the field of therapeutic additives to livestock and poultry feeds.

Building Warehouse

IDA GROVE, IOWA — Construction work has started on a 150-by-50-ft. warehouse addition to the Consumers Cooperative Assn. feed mill here. The addition is being equipped with a covered loading dock, reported Carl Greenburg, feed mill manager.

Harvest Eases Oilseed Meal Futures Prices

MEMPHIS—In sympathy with the expanding harvest of soybeans, oilseed meal futures eased last week on the Memphis Board of Trade, with cash buyers temporarily on the sidelines except for spot requirements. The tense Formosa situation lost its importance as a market factor, as did weather conditions, in view of the substantial amount of soybeans already harvested.

Large supplies of feed grain overall tended to lessen urgency of buying proteins, although on a competitive basis, soybean oil meal remains in an excellent position. Selling pressure from first hands was never great during the week. A modest amount of back spreading was in evidence.

Unrestricted soybean oil meal closed Oct. 1 $1.35 to $2.40 ton lower than on Sept. 24. Eastern Trunk Line soybean oil meal $1 to $1.25 lower, bulk solvent cottonseed oil meal 75¢ to $1.25 lower, and sacked old process cottonseed oil meal unchanged to 50¢ higher. March sacked old process cottonseed oil meal was the only gainer.

Trading for the period amounted to 4,000 tons of unrestricted soybean oil meal, 500 tons of bulk solvent cottonseed oil meal, and 100 tons of sacked old process cottonseed oil meal.

Michigan Feed, Grain Conference to Stress Merchandising in '59

EAST LANSING, MICH.—Michigan feed and grain dealers will devote their annual Michigan Feed and Grain Conference this year to "Planning Merchandising and Selling for Greater Profits in 1959," according to a recent announcement.

The conference, sponsored by the Michigan Grain & Feed Dealers Assn. and the College of Agriculture at Michigan State University, will be held Oct. 16-17 at the Kellogg Center for Continuing Education on the Michigan State University campus.

Speakers scheduled for the meeting will stress merchandising and selling in their addresses. Talks on merchandising will be given by J. F. McLimor, Ralston Purina Co., St. Louis; Stanley Odle, Allied Mills, Fort Wayne, Ind.; R. H. Slemmons, National Cash Register Co., Kalamazoo, Mich., and Joe Burger, Pasadena, Cal., former executive of the Corneli Seed Co., St. Louis.

Lawrence Smith, Smith Bros., Lake Odessa, president of the association, will discuss the association's activities in 1958 and the outlook for 1959 in his address.

The farm picture for 1959 will be outlined by Dr. Larry Boger, agricultural economist at Michigan State University, and new research developments will be discussed by Dr. Jake Hoeffer, animal husbandry department at Michigan State.

Also planned for the conference are a film on Michigan State University 1957 football highlights, the annual business meeting, annual banquet, a bulk feed machinery display and a ladies' program. The ladies' program includes a visit to a television station, a noon luncheon and a discussion on what's new in textiles by Hazel Strathan of the Michigan State University College of Home Economics.

Joins Kraft Bag

NEW YORK — George W. Fleck has joined the sales staff of Kraft Bag Corp., New York. He will cover most of North Carolina, South Carolina and eastern Tennessee, with headquarters in Charlotte, N.C. Mr. Fleck was formerly with Union Bag-Camp Paper Corp. The Kraft company operates integrated mills at St. Marys, Ga., and Gilman, Vt. Mr. Fleck will handle sales of both multiwall bags and the Kraftpacker open mouth bag filling machine.

Scientists to Discuss Chicken Edema Disease At Chemists' Meeting

WASHINGTON — The mysterious "chicken edema disease" which killed millions of chickens last winter will be given an entire session of the annual meeting of the Association of Official Agricultural Chemists when it meets at the Shoreham Hotel here Oct. 13-15.

Scientists from Ralston Purina Co., Procter & Gamble Co., Quaker Oats Co., Central Soya Co. and the Food & Drug Administration will discuss the disease, which was caused by the use of an untested fat by-product in chicken feed. The reports will describe studies to isolate and identify the causative factor so that a method of analysis can be devised to detect the presence of this toxic ingredient in the future.

The edema disease session will be held from 2:30 p.m. to 5:30 p.m. Oct. 14 in the Park Room. Papers to be presented will cover characterization of a type of unidentified compound producing edema in chicks, studies of the chicken edema disease factor and some chemical characteristics of the chicken edema disease factor.

Other sessions dealing with feeds are also planned. A session at 10:15 a.m. Oct. 13 will include discussions of sampling, an interim report of the AOAC-AOCS crude fiber liaison committee, chlorinated solvents for crude fat determinations on feedstuffs and meat products, digestibility of proteins, molasses, a method for the determination of sugars in sweetened feedstuffs, gossypol and a report on cereals.

A session scheduled for 2:30 p.m. to 5:30 p.m. Oct. 13 will cover drugs in feeds. Drugs to be discussed are diethylstilbestrol, dinitrobenzamide, glycarbylamide, nithiazide, nicarbazin, nicotine and phenothiazine, trithiadol and Bacitracin.

Nearly 1,000 persons are expected to attend the meeting. At this annual assembly professional scientific workers in the federal and state agencies, who are concerned with enforcing laws and regulations dealing with agricultural commodities, meet with the scientists of the regulated industries.

President of the association is Frank A. Vorhes, Jr., of the Food & Drug Administration. The topic of his annual address will be "Food Additives."

The association was founded in 1884 to provide reliable methods of analysis required for the enforcement of pure food and drug laws and laws regulating the sale of other agricultural commodities such as feeds, fertilizers and pesticides.

Industrial Molasses Co. Bids to Lease Terminal

TOLEDO, OHIO — Industrial Molasses Co., Leonia, N.J., has submitted a bid to lease a 4-million-gallon liquid bulk cargo terminal on Presque Isle here.

The company said that by 1959, it expects to be moving 200,000 tons of edible oils through the terminal annually. Included among the products would be blackstrap and beet molasses, cane sugar, imported vegetable oils and fish oil and fish solubles.

Under terms of the bid, the company would construct the cargo facilities at its own expense at a cost of approximately $500,000. It would then turn the title to the structure over to the port authorities and occupy it as a tenant under a 25-year lease.

Industrial Molasses would pay $2,000 per year in ground rent, another in dockage fees and about $6,500 in wharfage.

Port authorities said three feed manufacturing companies expressed interest in having a plant near the proposed Industrial Molasses site.

Fred W. Thomas

JOINS KELLOGG — Fred W. Thomas has been elected executive vice president of Spencer Kellogg & Sons, Inc., Buffalo, announced Howard Kellogg, Jr., president. (Feedstuffs, Sept. 27.) Mr. Thomas has served in executive capacities in the Larro Feed division of General Mills, Inc. and Central Soya Co., Inc., Ft. Wayne, Ind.

Michigan Chemical Names Sales Agent

SAINT LOUIS, MICH.—The Gladwin A. Read Co., Evanston, Ill., has been appointed sales agent of magnesium oxide to the feed industry for Michigan Chemical Corp., Saint Louis, Mich., it was announced by H. Stanley Lawton, Michigan Chemical vice president of sales.

The company's magnesia division produces several grades of magnesium oxide currently being used as a supplement in swine feeds.

"Nutritionists concerned with swine and dairy cattle know that magnesium is essential to certain body processes, primarily as an activator of phosphates," Mr. Lawton stated. "According to reports we have studied, the deficiency tends to exist in feed crops and pasture grasses where the land has been heavily nitrated. Apparently the nitrogen ion is combining with chlorophyll in such a way that the magnesium ion is knocked out or reacted into a soluble form which is then leached down beyond reach of the crop. If the deficiency is prolonged, animals become increasingly irritable, heart action is not controlled, there is kidney damage and eventual death in convulsions.

"We sense that border-line deficiencies involving magnesium are much more common than is generally realized, both in swine and dairy cattle, and will become a problem of increasing magnitude."

There are three well-known magnesium compounds—epsom salt, magnesium carbonate and calcined magnesite. Of the three, calcined magnesite (magnesium oxide), has the highest magnesium content and, therefore, is the most economical for supplement use, according to Mr. Lawton.

ELEVATOR FIRE

BEARDSLEY, MINN. — Fire destroyed the Beardsley Grain and Seed main elevator, feed mill and warehouse here. The loss was estimated at $100,000.

MILLFEED & FEED GRAIN
FEED INGREDIENTS
What Do You Need?
—Jerry Parks
633 Board of Trade
KANSAS CITY, MISSOURI

Broiler Sales Problem Subject of Virginia Poultry Convention

RICHMOND, VA.—Ways of opening the sales bottleneck of broiler production at increasing profits to retailers will be outlined at the Virginia Poultry Federation's Natural Bridge convention Oct. 14-15.

C. G. Bowes, merchandising consultant for the National Broiler Council, will introduce some ideas in tactical merchandising geared to move more chicken and expand retail grocery volume at the same time.

A program of special events in addition to general information sessions and a number of industry speakers are scheduled.

The Federation's annual banquet will feature as speaker on Oct. 14, the Rev. E. K. Emurian, pastor of the Elm Street Methodist Church at Portsmouth. An author, composer, newspaper columnist and noted speaker, as well as clergyman, he will speak on "The Arithmetic of Life."

Adult and youth awards will also be presented at the banquet. The adult awards will honor the two outstanding contributors to the state's poultry industry. The two youth awards will go to an FFA member and a 4-H member chosen from a group of nearly 4,000 youngsters.

Maury A. Hubbard, executive secretary of the Virginia Farm Bureau Federation, will speak at the presidents' breakfast, which will honor past presidents of the federation. His address is entitled "The Ingredients of Profits." Installation of new officers will also take place at this time.

Ladies will be guests at a luncheon Oct. 14, where Virginia Egg Council speakers will conduct the pilot presentation of an egg promotional luncheon featuring egg dishes. The presentation is to be repeated hundreds of times in coming months before civic club luncheons and others, a spokesman said.

A luncheon is scheduled for Oct. 15 for bankers invited to hear a panel discussion by several outstanding southeastern agricultural banking authorities. Moderated by Dr. Paul Sanders, editor of the Southern Planter, the panel will deal with the question, "Is Poultry a Good Risk?"

New Way to Process Glutamine Announced

INDIANAPOLIS—A new synthetic process for the making of glutamine, an amino acid which plays a part in the chemistry of all living cells and may eventually have medical uses, has been developed by Dr. G. Bruce Kline, organic chemist at Eli Lilly & Co., Indianapolis.

A Lilly announcement said the new process is much less expensive than former processes and that it is expected to spur glutamine research. The company said that through its agricultural and industrial products division Lilly is offering Dl-glutamine, a mixture of two nearly identical forms of glutamine, to research and development laboratories at less than one tenth the current cost of L-glutamine, one of the mixture's constituents.

32-Year Mill Veteran Dies in Alabama

DECATUR, ALA.—Harry Pannier, associated with Nebraska Consolidated Mills for 32 years, died here recently. He was 50.

Mr. Pannier was a native of Fremont, Neb. He joined Nebraska Consolidated at the Fremont mill in 1926. He was warehouse foreman at Fremon until 1941. At that time he was transferred to Decatur where Alabama Flour Mills had just been completed. He was general superintendent of both the flour and feed mills at Alabama Flour Mills at the time of his death.

"Farm Newsreel" Show Will Continue on TV

NEW YORK — Farm Newsreel, a syndicated television program devoted exclusively to news for farmers, will be continued another 13 weeks, according to its sponsor, the agricultural division of American Cyanamid Co., New York.

The 15-minute program brings to the farm home special news pertaining to agricultural events in the U.S. and developments of world-wide agricultural significance from foreign countries.

A highlight in the program format is "Farmer of the Week," which is edited by Martin Andrews of Hearst Metrotone News. Each week an outstanding farmer is nominated for his good farming methods.

The weekly program will be viewed in 52 major farm areas in 23 states, according to an announcement from its sponsor.

C-G-F Firm Announces Two Appointments

TOPEKA, KANSAS—The appointment of W. Lowell Gordon as manager of the Atchison, Kansas, elevator of the C-G-F Grain Co. has been announced by H. Bernerd Fink, managing partner of the firm, and Ralph J. Crawford, general manager.

Also announced was the appointment of Samuel A. Darrough as assistant manager for C-G-F at Lincoln, Neb. Wallace N. Neil is manager of C-G-F at Lincoln.

Mr. Gordon has for the past four years been a grain merchandiser with Bartlett & Co., and before that was comptroller and merchandiser with the Bates Grain Co. He has been a member of the Kansas City Board of Trade nine years, and is a member of the Kansas City Feed Club.

Mr. Darrough entered the grain business in 1940 following his graduation from the University of Missouri. He was first with the Standard Milling Co., and after World War II was with the Meservey-O'Sullivan Grain Co. Mr. Darrough has been a member of the Kansas City Board of Trade for five years.

The total grain storage capacity of C-G-F in the Southwest now approximates 140 million bushels. The company's grain elevators at Atchison and Lincoln each have 14 million bushel capacities.

Dr. A. H. McDaniel

RESEARCH POST — The appointment of Dr. A. H. McDaniel to the position of assistant director of research has been announced by Troy Cox, vice president of Albers Milling Co., Los Angeles. Dr. McDaniel was an assistant county agent in New Mexico following his graduation from New Mexico A&M College. He was assistant animal husbandman at the Louisiana Agricultural Experiment Station before receiving his Ph.D. degree in animal husbandry from Texas A&M College. He also holds an M.S. degree from Texas A&M.

Farm Commodity-Feed Price Ratios

	U.S.	New Eng.	Mid-Atl.	East North Cent.	West North Cent.	South Atl.	East South Cent.	West South Cent.	Mount.	Pac.
CHICKEN-FEED—										
Farm Chickens:										
September, 1958	3.7	3.4	4.5	3.9	3.5	3.8	3.9	3.8	4.1	3.4
August, 1958	4.1	3.8	4.8	4.3	4.2	3.8	3.8	3.9	4.2	3.8
September, 1957	4.0	3.8	4.8	4.2	3.8	4.3	4.1	3.7	4.4	3.5
Average (1947-56)	6.0									
Average (Sept., 1947-56)	5.7									
Broilers:										
September, 1958	3.3	3.4	4.3	3.6	3.6	3.1	3.3	3.2	4.0	3.6
August, 1958	3.5	3.5	4.4	3.8	3.8	3.3	3.4	3.6	4.0	3.9
September, 1957	3.7	4.1	4.8	4.5	3.7	3.6	3.6	3.5	4.3	4.5
TURKEY-FEED—										
September, 1958	6.9	6.9	8.3	7.3	8.4	6.3	6.9	7.0	6.7	5.6
August, 1958	7.1	6.8	8.3	7.4	8.6	6.3	6.7	6.8	7.2	6.2
September, 1957	6.7	8.5	9.1	6.9	7.8	6.0	7.2	6.5	6.2	5.4
Average (1947-56)	8.7									
Average (Sept., 1947-56)	8.6									
EGG-FEED—										
September, 1958	11.9	12.6	13.4	11.3	11.8	11.4	11.6	11.5	12.6	11.2
August, 1958	10.5	12.2	11.6	10.0	9.8	10.5	10.4	10.5	12.1	10.0
September, 1957	11.7	13.7	13.7	11.4	10.8	12.1	11.6	11.5	12.1	9.8
Average (1947-56)	11.2									
Average (Sept., 1947-56)	12.1									

	U.S.	North Atl.	East North Cent.	West North Cent.	South Atl.	South Cent.	West
MILK-FEED—							
September, 1958	1.45	1.46	1.35	1.55	1.53	1.53	1.44
August, 1958	1.36	1.40	1.26	1.48	1.45	1.41	1.35
September, 1957	1.45	1.51	1.37	1.52	1.56	1.50	1.42
Average (1947-56)	1.26						
Average (Sept., 1947-56)	1.31						
BUTTERFAT-FEED—							
September, 1958	23.7	...	19.5	26.6	...	16.2	19.4
August, 1958	23.2	...	19.1	26.1	...	15.8	19.2
September, 1957	22.9	...	19.6	25.4	...	15.6	18.7
Average (1947-56)	21.9						
Average (Sept., 1947-56)	22.1						

	U.S.	North Cent.
HOG-CORN—		
September, 1958	17.7	18.3
August, 1958	17.9	18.2
September, 1957	16.6	17.4
Average (1947-56)	13.2	13.5
Average (Sept., 1947-56)	13.4	13.6

NOTE: Ratios computed at mid-month by U.S. Department of Agriculture. Ratios represent number of pounds of poultry feed equal in value to 1 lb. live farm chicken, turkey or 1 doz. eggs; pounds broiler growing mash equal to 1 lb. broiler; pounds concentrate rations equal to 1 lb. milk or butterfat; bushels of corn equal to 100 lb. hog. Increases in ratios are favorable to the feeder.

KEY TO GEOGRAPHICAL DIVISION

Here is a guide to the states included in the geographical divisions listed in the accompanying commodity-feed price ratios:

New England: Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut.

Mid-Atlantic: New York, New Jersey, Pennsylvania.

North Atlantic: New England and Mid-Atlantic states combined.

East North Central: Ohio, Indiana, Illinois, Michigan, Wisconsin.

West North Central: Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, Kansas.

North Central: Combination of the two foregoing.

South Atlantic: Delaware, Maryland, Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida.

East South Central: Kentucky, Tennessee, Alabama, Mississippi.

West South Central: Arkansas, Louisiana, Oklahoma, Texas.

Pacific: Washington, Oregon, California.

Mountain: Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah, Nevada, Montana.

West: Combination of the two above.

South Central: Combination of the two above.

ARKANSAS OFFICERS AND DIRECTORS—New officers and directors of the Arkansas Feed Manufacturers Assn. were elected at Fayetteville just prior to the recent Arkansas Formula Feed Conference held at the University of Arkansas. Shown (left to right) are: Collier Wenderoth, O. K. Feed Mills, Inc., Ft. Smith; Kirk Hale, Peterson Produce Co., Decatur; Ted Darragh, Darragh Co., Little Rock, retiring president; James Dunaway, Thibault Milling Co., Little Rock; J. W. Cobb, Cameron Feed Mills, North Little Rock, secretary-treasurer; Harold Snyder, Arkansas Valley Feed Mills, Inc., Dardanelle, president, and Haney Cochran, H. K. Cochran Co., Little Rock, vice president. Dick Kendrick, Tyson's Feed & Hatchery, Springdale, another director, is not in the picture.

CAPITAL COMMENT

By John Cipperly

WASHINGTON — An unassociated coyness with the character of top Commodity Credit Corp. officials has failed this week to confirm a planned program to make available the equivalent of 25-50 million bushels of soybeans for edible oils for domestic and foreign donation programs.

It has been learned that when confronted with reports made exclusively in Feedstuffs (Sept. 27), top Commodity Stabilization Service officials blushingly denied such intentions, saying that it was a "Feedstuffs" report.

Prior to the availability of the above mentioned news, it was again confirmed by responsible CSS authorities, and also front office officials at USDA, that there was in the planning stage a give-away program for edible oils for foreign and domestic relief programs this year.

The soybean producers' committee, which met here this week with top men of CSS, appears to have left with the faint observation that the Feedstuffs report was originally correct, despite the fact that their audience at CSS only produced confirmation that "Feedstuffs" had broken the news.

Here is about the way the situation stands as of this week:

Not before the end of next week—probably Oct. 10, when Secretary Benson returns to the capital—will there be any final decision on the oil donation program.

The new soybean crop looms large, notwithstanding reports that weather conditions are reducing yields. Any reductions which can occur will not break this crop below record-making levels, it is said.

The decision as to a donation program for edible oils must be construed as primarily a political decision at CSS. If it is to be made operative, it must be taken within the next 10 days. Secretary Benson is not without political "savvy." It must be presumed that he will okay any measures which do not do violence to his farm price theories, but at the same time may attract votes in the farm belt this year.

The timing of this give-away program for edible oils is aimed—largely because of operational delay at USDA—to meet the final decision of the secretary next week.

The program may run between 25 and 50 million bushels of soybeans processed in terms of oil. There is no fear within top levels of USDA that the residual meal component of this crush will materially influence domestic meal markets.

In fact, the top market specialists of USDA say that there is no reason for concern, and that meal will stabilize within a relatively narrow range.

This activity on the part of USDA at this time may be ascribed to Congressional activity wherein the Congress passed an amended farm bill which authorized use of edible oils for donation. Such authority has previously existed but USDA declined to use such grant.

This however is a political year. Key Republican senators are on the hot seat. Consequently, it must be expected that even the secretary of agriculture may give way to political consideration, and give his benediction to an oil donation program.

This news, exclusively given currency by Feedstuffs, has aroused much attention within the oil trades.

The answer to how this donation program will be accomplished is brief. It will be accomplished through deliveries from the government under Public Law 480 funds, Title 2, whereby end products will be obtained from processors in the form of shortening, cooking oil or margarine. Such final distribution will be obtained from foreign relief organizations such as "CARE", the Catholic Charities, the Society of Friends, and Jewish and Protestant charitable organizations. Within the U.S. such distribution would come through state and local authorities which are currently distributing wheat flour and corn meal to distressed unemployment areas.

FARM INCOME UP

★

WASHINGTON—Farmers received $19.5 billion from marketings in the first eight months of 1958, or 10.5% more than in the corresponding period in 1957, reported the U.S. Department of Agriculture. Prices averaged 6% higher and the volume of marketings was up about 4%.

Receipts from livestock and products were about $12.2 billion, or 10% above 1957. The increase was due to higher prices for cattle, hogs, chickens and eggs, USDA said.

Crop receipts were $7.3 billion, or 12% above 1957. Larger receipts from wheat, sorghum grain, potatoes, oranges and cotton accounted for most of the increase.

Tallow, Grease Output May Show Increase; Steady Prices Seen

WASHINGTON—Prices for inedible tallow during October-December are likely to average near the 8¢ (prime, tank cars, Chicago) level of the same period last year, according to the U.S. Department of Agriculture.

The USDA Fats & Oils Situation report released this week said that prices were fairly stable during the October, 1957, through August, 1958, period, averaging 7.7¢ lb.—0.7¢ above a year earlier. Prices in mid-September were 7.9¢, about the same as in September, 1957.

Production of inedible tallow and greases during the marketing year ending Sept. 30, 1958, is expected to total around 2,700 million pounds, 300 million pounds less than the previous year.

Domestic use has been relatively stable just under the rate of a year earlier, buf exports are down 24%, the report said. Stocks on Aug. 1, 1958, were 4% below a year ago. A rise in the use of inedible fats and greases for animal feeds nearly offset a drop in consumption of fats and greases for soap.

The report said output of inedible tallow for the marketing year beginning Oct. 1 may increase slightly from the 2,700 million pounds estimated for 1957-58, because of a prospective 11% increase in hog slaughter. Cattle slaughter is expected to remain at the 1957-58 level.

Kimbell Announces Management Change

BIG SPRING, TEXAS—The Kimbell Feed Mill, Fort Worth, has announced that Finis Taylor, who moved here from Durant, Okla., to become manager of the local firm, is being returned to Durant where he becomes manager of the Durant Feed & Milling Co. He had been assistant manager before transferring to Big Spring.

New manager of the local mill is Clyde Eager, who had been in the feed and grain business for himself at Merkel, Texas. Both the Big Spring and Durant firms are among the mills owned by the Kimbell Milling Co.

Dr. Earl L. Butz

PURINA DIRECTOR—Dr. Earl L. Butz, dean of the Purdue University School of Agriculture, was elected a director of the Ralston Purina Co. recently (Feedstuffs, Sept. 27). Donald Danforth, chairman of the board of Ralston Purina, said Dr. Butz will fill the unexpired term of Dr. C. A. Elvehjem, who relinquished his directorship recently when he was elected president of the University of Wisconsin. Dr. Butz was assistant secretary of agriculture under Ezra Taft Benson until last year.

D. L. Bruner

Animal Health Group Promotes D. L. Bruner

DES MOINES—The board of directors of the Animal Health Institute has announced the appointment of D. L. Bruner, Des Moines, as full-time executive secretary. The appointment is effective Jan. 1, 1959.

Creation of the full-time position was made necessary by the rapid growth and expansion of AHI activities, particularly in the field of feed additives, according to the announcement.

Since 1950, Mr. Bruner has divided his time as executive secretary of both the AHI and the Iowa Pharmaceutical Assn. He has resigned the latter post effective Jan. 1.

The AHI is a trade association of manufacturers and suppliers of animal health products and feed additives (drugs, antibiotics and chemicals).

"Mr. Bruner has broad experience in the animal health field and is thoroughly familiar with the problems confronting our trade association," said True Davis, AHI president. "In the eight years he has served the institute he has established a wide circle of friends in the animal health field and, more importantly, has compiled an excellent record in the industry despite numerous handicaps.

"For these reasons the board of directions feels he is the logical choice to take on the additional duties and functions the AHI has planned for the immediate future and the years ahead. This expansion adds new dimensions to the scope and activity of the institute."

In order to accomplish the expanded objectives of the AHI, Mr. Bruner will establish a new headquarters in Des Moines. It will be staffed and equipped to render broader service to its members. In addition to normal trade association duties, Mr. Bruner and his staff will represent the industry to state and federal regulatory agencies, and will work with allied trade associations.

Payment-in-Kind Bids Summarized by USDA

WASHINGTON — A total of 63,739,775 bu. of corn has been accepted in bids under the feed grain payment-in-kind export program since it began on May 12, the U.S. Department of Agriculture reports.

The total was announced in a summary of bids for the week ending Sept. 26 and of the cumulative totals for corn, barley, grain sorghums, oats and rye since the program began on May 12 for corn and June 1 for other grains.

Totals for the week and cumulative totals since the program began are as follows: Corn, 1,916,332, 63,739,775; barley, 1,673,253, 25,810,914; grain sorghums (cwt.), 102,600, 11,006,720; oats, 225,000, 2,600,770; rye, 24,000, 2,030,571.

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Maritime Completes First Phase Of Major Modernization Program

Extensive Plant Improvements Being Made as Part of Million-Dollar Project

Increased production capacity; greater efficiency, with lower costs; still further improvement in quality control; more flexibility in loading out; and prompter service—those are some of the goals of an extensive plant modernization program being carried out by the Maritime Milling Co., Buffalo.

The dairy and poultry feeds of both Maritime and its sister company, the Park & Pollard Co., Inc., are manufactured at this big mill at 278 Hopkins St. in Buffalo.

On the drawing boards or already completed is what will be a million dollar plant modernization program, explained Bruce Conover, Jr., executive vice president of the two feed manufacturing firms. The first phase of the program just recently has been completed.

Mr. Conover placed a quarter-million-dollar price tag on the work accomplished thus far. "Where new machines with higher rates of production and greater efficiency can be utilized, new installations have been and will continue to be made," he pointed out.

The Maritime plant is a continuous mixing type operation, and the recently completed facilities include one completely new production line—for dairy and stock feeds—to supplement the other lines. Other improvements in the first phase of the modernization program include a battery of new ingredient feeders on another production line, a large addition to the train loading shed, and several hundred feet of new conveyors for bagged finished feed.

The entire plant is described as a "direct line" operation. Robert Seamon, general superintendent, points out that production is a direct, continuous operation from ingredients to packing or further processing, and the finished feed moves directly from packers over a network of conveyors to boxcars or the truck dock.

Bruce Conover, Jr.

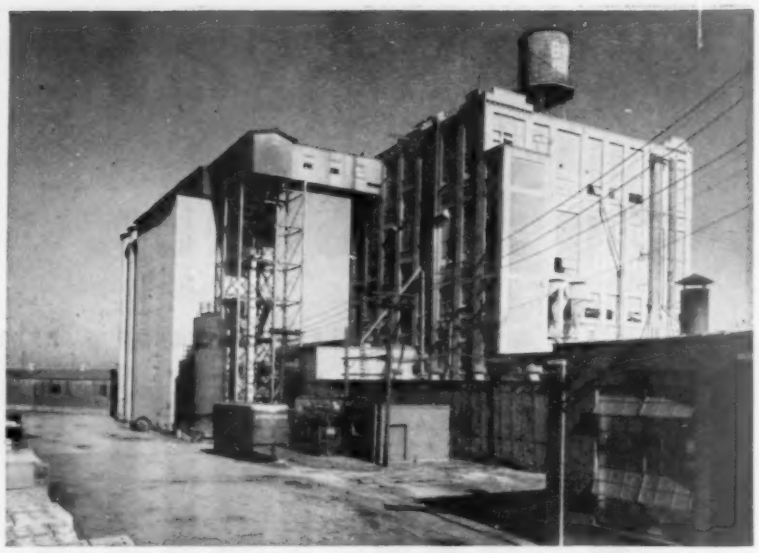
Executive vice president of Maritime Milling Co. and The Park & Pollard Co. is Bruce Conover, Jr. He points out that increased production facilities and greater efficiency in the manufacture of today's more complex rations are the main goals of the production development plans.

Results Listed

L. M. Richardson, sales manager, listed these results of the modernization work so far: "(1) We will be even more competitive than before, through improved quality, plus greater efficiency, resulting in reduced operating costs. (2) Uniformity can be assured in every delivery. (3) Faster, more personalized service is made possible by capacity and flexibility features of the new facilities."

Maritime got its start in the feed business in 1917, producing a dairy feed in a small batch plant on Pratt St. In 1920, a modern five-story mill was built on Hopkins St. Then, as the Delmarva poultry industry expanded, an additional plant was built in 1951 at Seaford, Del. In 1956, Maritime acquired Park & Pollard, and now feeds for the two firms are made at the Hopkins St. plant. Among the Maritime products are "Bull Brand" dairy and stock feeds and "Maco" poultry feeds. Park & Pollard brands include "Milkmaid" and "Red Ribbon" dairy rations and "Lay or Bust" poultry rations. The feeds are distributed through dealers and company stores in New England, New York, Pennsylvania, New Jersey, Delaware, Maryland, Virginia and West Virginia.

In 1957, Maritime was merged into the George Urban Milling Co., a flour milling company in Buffalo.



An exterior view of the big plant in Buffalo where Maritime Milling and Park & Pollard feeds are made. The first phase of a million-dollar plant modernization program has just recently been completed.

Most products are shipped in boxcars, but modernized facilities also are provided for customer trucks and other vehicles, Mr. Seamon pointed out. Customer truck loading is assigned to fully enclosed dual platform dock stations. Both bulk and packaged feeds go out by truck.

The planning and carrying out of the modernization program are being handled entirely by Mr. Seamon and some of his department heads. A good many hours of study and planning have gone into the program. In this connection, Mr. Seamon cited the value of information obtained at the Midwest Feed Production Schools in Kansas City. He said that cost figures, labor standards, operation tips and other material from the schools have been applied throughout the surveys, projections and planning which are now bringing greater efficiency and cost savings. Incidentally, Mr. Seamon is one of the few feed men who have attended every production school since the event was started in 1950, and he has served on the school planning committee. Three Maritime department heads also have attended the schools.

Commenting on cost standards, Mr. Seamon mentioned the growing importance of sound cost control in feed manufacturing, with organized record keeping a part of it. He added: "We continually want to know not only how well each one of the functions in the cost points is being performed, but just how it stands with reference to industry standards."

The Maritime modernization program—which in part deals with new facilities for the purpose of turning out the greater part of the production on the day shift—provides for minimum capacity of 20,000 tons a month; this can be readily increased through greater use of night shift resources.

Additional Production Line

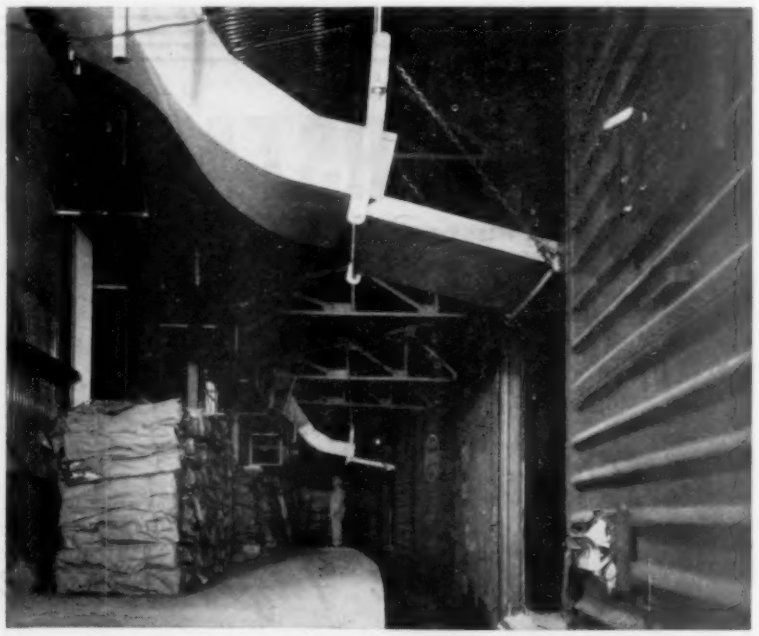
Mr. Seamon said surveys and planning work quickly showed the need for an additional production station, to be used for dairy and stock feeds. This now is one of three main production lines. One of the others is for poultry mash, and one is for pellets and crumbles. There also is an auxiliary packing unit for 50-lb. papers.

The unit factor in the new line is a minimum out-turn of twelve 100-lb. burlap bags per minute. New production facilities were geared to this rate, based on a continuous line method, beginning with the feeder units, also various processing operations, and on through packaging and carloading.

Development of the new production station, Mr. Seamon explained, started at the continuous feeder line, where many new feeder units, conveyors and elevating facilities were installed. Other new facilities include feed dressers, magnets, mixer, scale, sewing equipment, belt conveyors, etc.

The new Richardson bagging scale

The new dairy feed bagging line where new equipment has speeded bag filling operations more than 50%. New conveyor systems take the finished feed to the train loading shed.



A new addition to the train loading shed provides space for 10 additional cars. The plant can now load 28 cars at one time, free of weather complications. A new conveyor system takes feed to the cars.

equipment is a single unit GGG-38 model, with belt feeder, pneumatic gate assist, automatic discharge and air-operated bag holder. Also new is a Union Special sewing head No. 14500.

Two S. Howes feed dressers are used—one on the dry ration before the mixer and the second at the end of the mixer, after molasses is applied. S. Howes also furnished the mixer, a No. 22 Eureka agitator mixer with a 25 h.p. motor and a capacity of 45 tons per hour. Used in applying molasses to rations in the mixer is a Buffalo meter, with Hays Vari-Flo equipment for controlled measurement. Automatic molasses cutoff when the mixer or feed flow stops is obtained with equipment made by Leslie Mfg. Co.; this employs a solenoid valve and air service.

Mr. Seamon emphasized that the entire operation is a rapid, direct line system, from ingredient feeders through loading out. "In fact," he said, "feed is mixed and loaded out on the same day orders are received, and very little feed is stockpiled in our storage areas."

New Loading Shed

He noted that an important factor in keeping the feed "on the move" is the addition of a new train loading shed, which encloses the remaining portion of the loading docks and will accommodate 10 extra boxcars. The plant can now load 28 cars at one time, free of weather complications.

The new shed, of structural steel, is attached to the existing loading shed. Running the full length along the tracks is a 7-ft.-wide platform, with a 5-in. reinforced concrete slab. The roof is hip style with enclosed gable end. Corrugated aluminum sheets enclose both roof and sides. There are gravity-type roof ventilators and windows on the side. The building is 255 ft. long and 43 ft. wide, spanning two sets of tracks.

Conveyor Systems

Installed to keep pace with the increased loading requirements were new automatic conveyor systems which take feed from the production units to cars or trucks. The conveyors, Mr. Seamon said, were also engineered to permit more flexibility in loading orders, with assurance of better arrangements of the various types of products according to customer specifications, explaining that new conveyors were coordinated with existing facilities and provide independent transportation systems installed on the production floor, for their production units operating at the rate of 12 bags per minute.

Required in the system from the

This picture shows the new Eureka mixer where molasses is blended with dry feedstuffs in Maritime and Park & Pollard dairy feeds.

production stations was a series of four conveyors—two horizontal and two inclined. In addition to regular discharge diverters on the conveyors, several diverters are of special design to meet existing cross section conveyors at right angles. Load capacity was based on a minimum of 24 bags per minute, in the event more than one production line requires routing on one conveyor system. The four conveyors in this area have a total length of 230 feet.

Installed to service the new train shed was a series of five conveyors, one inclined and four horizontal, including one 50-ft. overhead belt which spans the two sets of tracks. Over-all length of these conveyors is 325 ft.

Rough top belting is used on the inclined conveyors, and four ply stitched (impregnated) canvas belting is used on all horizontal conveyors.

Feeder Units

"The matter of uniformity and quality control is ever present in the feed manufacturing business," Mr. Seamon commented, "but we have made real progress in eliminating any remaining variables in our feeder lines with the installation of new equipment and improved operating techniques.

"A battery of new ingredient feeder units was added to the mash line as well as the dairy line. Many of these units are engineered to handle the various micro-ingredients.

"The mash feeder line previously operated on the basis of a number of premixes. The premixes were eliminated by adding in parallel manner to our mash feeder line, a battery of 18 feeders of various types and sizes, with flexible feeding ranges, for ac-

(Turn to page 14)

A battery of new feeder units has been installed on the poultry mash line. These include units which will handle the various micro-ingredients.

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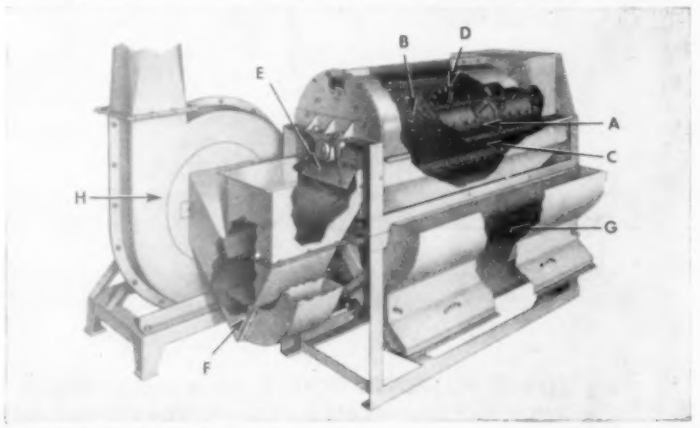

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Six new tests on one conclusion

1 UNIVERSITY OF MASSACHUSETTS TEST compared from the standpoint of growth response, 4 grams of zinc bacitracin with 4 grams of penicillin. The No. 943 cross from Hubbard farms, Walpole, N. H., was used in this trial. Each antibiotic was fed to 16-bird replicates.

Treatment (32 birds per treatment)	Antibiotic Per Ton of Feed (grams)	Average Male Wt. 8 wks. (lbs.)	lb. feed per lb. gain	Mortality (Each Treatment 32 birds started)
Control	0	3.26	2.15	1
BACIFERM (zinc bacitracin)	4	3.34	2.16	0
BACIFERM (zinc bacitracin)	6	3.38	2.11	1
Penicillin	4	3.37	2.11	2

This test shows that the use of either 4 grams or 6 grams of zinc bacitracin per ton of feed gives results fully equal to 4 grams of penicillin.

2 UNIVERSITY OF GEORGIA FEEDING TRIAL compared zinc bacitracin at a 4 gram per ton level with penicillin at a 4 gram per ton level. Six groups of broiler type chicks (Thompson's White Rocks) consisting of 20 males and 20 females per replicate were raised in batteries to eight weeks of age.

Treatment (40 birds per treatment)	Antibiotic Per Ton of Feed (grams)	Av. Wt. 8 weeks (lbs.)	Feed Conversion
BACIFERM (zinc bacitracin)	4	2.61	2.13
Penicillin	4	2.58	2.12
BACIFERM®-PB*	4	2.69	2.23

*contains zinc bacitracin plus penicillin (3.1 ratio)

In this 8-week test, zinc bacitracin at 4 grams per ton did the same job as 4 grams of penicillin or 4 grams of the combination including zinc bacitracin. There was no significant difference in results at the end of 4 weeks or 8 weeks.

3 ALABAMA POLYTECHNIC INSTITUTE recently completed an experiment in which the performance of a diet containing a low level of zinc bacitracin was compared with one containing penicillin. A Vantress-Nichols cross was used in 20-bird replicates. Tests were conducted in standard batteries to almost 5 weeks, then shifted to outdoor finishing pens.

Treatment (40 birds per treatment)	Antibiotic per Ton of Feed (grams)	Av. Weight 8 weeks (lbs.)	Lb. Feed Per Lb. of Gain
BACIFERM (zinc bacitracin)	4	2.21	2.41
BACIFERM-PB*	4	2.25	2.45
Penicillin	4	2.21	2.54

*contains zinc bacitracin plus penicillin (3.1 ratio)

The findings from this 8-week experiment show that Baciferm at a level of 4 grams per ton of feed stimulated growth of broilers as much as 4 grams per ton of penicillin. This would indicate that zinc bacitracin is equal to penicillin as a growth stimulant. Hot weather near the end of the period is believed to be responsible for the slow growth.

4 FEED MANUFACTURER IN SOUTHEAST has completed his own feeding trial on low-level zinc bacitracin versus low-level penicillin. Results were derived from the average of four replicates containing 25 males and 25 females of the Vantress-Arbor Acre Cross.

Treatment (200 birds per treatment)	Antibiotic Per Ton of Feed (grams)	Avg. wt. 66 Days (lbs.)	Feed Efficiency lb. feed per lb. gain	Cost per lb. meat
Penicillin	4	3.183	2.31	14.73¢
BACIFERM (zinc bacitracin)	4	3.192	2.30	14.66¢
BACIFERM-PB*	5	3.19	2.30	14.70¢

*contains zinc bacitracin plus penicillin (3.1 ratio)

In this 66-day test, 4 grams of zinc bacitracin and 4 grams of the combination including zinc bacitracin proved just as effective as 4 grams of penicillin. This manufacturer was so convinced by the results, he's including zinc bacitracin in all his broiler feed formulations.

antibiotics lead to

the buy is Baciferm®— zinc bacitracin antibiotic supplements. New proof of effectiveness comes from universities and commercial feeding trials. Six different tests show that zinc bacitracin at 4 grams per ton of feed can replace penicillin in poultry rations – and give the same growth response.

5 **LEADING NORTHEASTERN UNIVERSITY** compared growth response and feed conversion of broiler starter and finisher rations containing 4 grams of zinc bacitracin with rations containing 4 grams of penicillin. Duplicate lots of 50 Cobb's White Plymouth Rock broiler chicks of mixed sexes were reared in floor pens on straw litter in a commercial type broiler house considered clean and "uninfected" since it had not been used for a long period of time. The test was run during one of the coldest winters experienced in this area.

Treatment (100 birds per treatment)	Antibiotic Per Ton of Feed (grams)	Av. Weight 9 Weeks (lbs.)	Feed Efficiency lb. feed per lb. broiler
Control	0	3.43	2.44
BACIFERM (zinc bacitracin)	4	3.49	2.40
Penicillin	4	3.40	2.40

Although the differences were slight, the Baciferm supplemented feed did produce better results. This controlled test indicates that 4 grams of zinc bacitracin can definitely replace 4 grams of procaine penicillin for growth stimulation.

6 **BROILER TRIAL** conducted by a commercial test farm. Birds were reared on floor-type pens up to nine weeks. Low levels of zinc bacitracin and penicillin were fed to duplicate lots of 250 cockerels and 250 pullets.

Treatment (1000 birds per treatment)	Antibiotic per ton of Feed (grams)	Av. Wt. 9 weeks (lbs.)	Lb. Feed Per Lb. Gain
BACIFERM (zinc bacitracin)	4	3.2	2.48
Penicillin	4	3.2	2.48

Throughout this 9-week test, extremely hot and dry weather persisted. Birds were not debeaked and showed excellent health, 4 grams of zinc bacitracin performed identically with 4 grams of penicillin and weight gains were good.

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MODEL HOG FARM—Hunter Packing Co., East St. Louis, Ill., has established an 80-acre model hog farm near Freeburg, Ill., where farmers may observe modern, efficient production of meat-type hogs. Hunter offers a marketing agreement with farmers who will set up the prescribed facilities and use recommended methods. The program was organized in conjunction with Staley Milling Co., Kansas City, which has a multiple farrowing plan. In the first picture is a converted dairy barn which houses the farm's wash room, farrowing house and pig nursery. Hunter is utilizing existing structures to demonstrate easy and less expensive ways of developing a model farm. The second picture is a view of the boar and sow colony where breeding takes place. Winter quarters at left of runways are of metal construction. In summer months, open sheds at right, equipped with spray nozzles and concrete floor, keep animals cool. The third picture shows how the sow is scrubbed four or five days before farrowing. In the farrowing room, specially designed crates prevent the sow from rolling on the pigs. The room is air conditioned in the summer and heat lamps are used in the winter. The sow is released to exercise pen twice daily for feeding on a slanted concrete floor. Waste drains into a concrete trench which runs around the building to sump in the rear where a tank wagon equipped with a diaphragm pump cleans out sump and takes the liquid manure to the fields. Pigs are weaned at four weeks. Before weaning, a 21-day weight record is kept to determine milking ability of the sow. Weight of the pigs is recorded at weaning date and again at 56 days. After weaning, the pigs go to the nursery and are vaccinated. The fourth picture shows the finishing house, where the pigs are weighed regularly to obtain a record of feed conversion. Hunter's production division supplies the farm with data on how each slaughtered animal grades and cuts out—information which is used in the selection of breeding stock. Similar information is provided to farmers under contract with the firm. Shown checking weights are Tom Clark (left), Hunter's head hog buyer, and Ben M. A. Smith, head of Hunter's livestock extension service.

curate delivery of miscellaneous materials, including micro-ingredients. These units were specially designed for Maritime by the Gump Company."

The 18 feeder units have connected hoppers of various sizes. Some of the hoppers are loaded from the top by screw conveyor; others are filled directly from overhead supply bins; while additives with a small daily usage are filled manually.

The new dairy and mash feeder lines are fully automatic, and the operations can be quickly changed from one formula to another by setting push-button controls.

"Quality control is the password on the feeder line," Mr. Seamon said, "and the new facilities have contributed a good deal to improved uniformity."

In general, completion of the first phase of Maritime's modernization program has resulted in stepped up capacity, greater efficiency and smoother operations in the plant. But, as Mr. Conover pointed out, a project like this can also be quickly reflected in sales activities in the field. For example, he said, a company which moves ahead in its manufacturing can give the sales force such things to tie into as: improved quality and uniformity, a more competitive position, greater flexibility, and faster, more personalized service.

Fish Meal, Scrap Output Down 14%

WASHINGTON — Fish meal and scrap production during the month of June continued to run behind production of the preceding year, according to a report by the Fish & Wildlife Service.

The report said June production of 31,000 tons was a drop of 14% from the same month in 1957. Production of fish solubles amounted to 22.1 million pounds, a drop of 4.2 million pounds from the previous June. Over 6.5 million pounds of homogenized-condensed fish were produced, a decline of 1.8 million pounds from June, 1957.

For the first six months of 1958, meal and scrap production was 60,000 tons—a reduction of 12,000 tons from the same period of the previous year.

Decline Controlled Plan

CALGARY, ALBERTA — Alberta's registered egg producers, for the second time, have turned down a producer controlled egg marketing plan. Only 40.62% of the province's registered egg producers voted in favor of the plan, which required a 61% majority to carry it.

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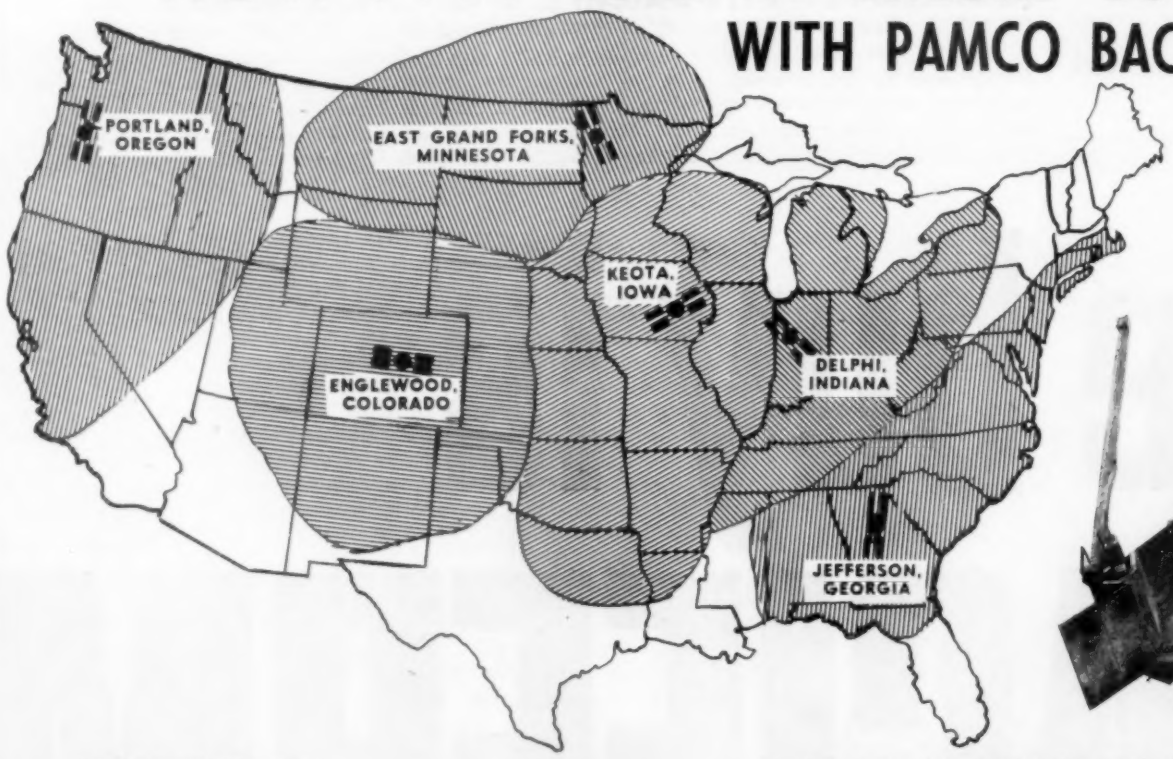

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Winners in Honeggers' Sales Contest Named

FAIRBURY, ILL.—Awards representing more than $6,000 worth of Honeggers' & Co., Inc., stock were presented to 12 district sales managers at a recent sales convention in Lincoln, Neb., according to an announcement by Elmer S. Roth, vice president, general sales manager, of Honeggers' & Co., Inc., Fairbury.

The 12 district sales managers, representing four divisions, received the awards for outstanding sales during the "Sellarama Campaign" for the three-month period of June, July and August. E. F. Dickey, executive vice president and general manager, reports a sales volume and percentage increase during this period of 39% for feed tonnage sales, an increase of 167% on farm buildings, and equipment sales were increased by 158%, as compared to the same period during 1957.

The 12 men who figured in on the "big money winnings" which were presented by Sam Honegger, president and chairman of the board of directors of Honeggers', were Richard Gordon, Guy Long and Paul Bates, eastern division; Lowren Arnett, Joe Merck and Mark Horner, east central division; Alf Eisenman, Al Ringger, and Howard Heward, central division, and Dean Twaddle, Jim McInnis and Carl Bach of the Iowa division.

The sales convention, attended by 100 Honegger sales personnel, also had another highlight which was a tour of the newly acquired feed mill in Lincoln. This mill, which is already producing Big "H" Feeds, will be serving the Nebraska, South Dakota, Colorado and Kansas areas.

Seeks Withdrawal Of New Rail Charge

BUFFALO—The Buffalo Corn Exchange has appealed to eastern railroads to withdraw a new charge of $10 car directed against grain and feed dealers for handling cars subject to surrender of order-notify bills of lading.

Frank Catanzarite, executive secretary, termed the charge, which is hiked to $20 after the first 24 hours, unjust and unreasonable, particularly where smaller dealers are concerned.

"Prior to this week," Mr. Catanzarite said, "there was no charge when the bill of lading was surrendered within 24 hours. Under the new tariff now in effect, the $10 charge is assessed if the instructions to move the car are not given before arrival of car, even if subsequent disposition is given prior to the expiration of 24 hours.

"In many instances, cars will arrive at destination before the papers can be cleared through the bank. This is especially true on short hauls. The added charge results in penalizing shippers for nonperformance when performance is absolutely impossible."

August Pullorum Tests Show Sharp Increase

WASHINGTON—A 227% increase in the number of light breed turkeys tested for pullorum disease was reported for August, 1958, over the same month a year earlier by the U.S. Department of Agriculture. The total number of light breeds tested was 71,483.

More turkeys of all breeds were tested during the month, the report said. The number of heavy white breeds tested totaled 48,640 and the number of other heavy breeds tested totaled 92,548. These were increases of 6% and 35%, respectively, from August, 1957.

During the months of July through August, the testings of heavy breed turkeys were 37% over the same months in 1957. Heavy white breeds tested were up 53% and other heavy breeds tested were up 24%. The testings of light breeds were 173% more than during July through August last year.

In the states for which comparisons are available for chicken testings, a total of 1,596,792 chickens for supplying broiler hatching eggs was tested during August, about the same as in August, 1957.

Testings July through August totaled 3,224,921 — up 11% from the testings during the same period in 1957. The number of chickens for other purposes tested during August totaled 599 607—11% less than in August, 1957. The number tested July through August of this year totaled 1,100,165—up 6% from the same months in 1957.

"Mmmmm!"

MUSCATINE, IOWA—About 2,000 Kent Feed employees and their families will testify that "barbecued chicken is delicious," after devouring 1,000 chickens at their annual company picnic Sept. 13.

Credit for the preparation of the feed went to the Chicken Barbecuing Service of Ames, a service provided by the Iowa Poultry Improvement Assn.

The all-day picnic also featured rides for the kids, music for dancing, attendance prizes and free refreshments.

Boise Cascade Buys San Francisco Firm

BOISE, IDAHO — Boise Cascade Corp. announced recently that it has acquired control of Ames Harris Neville Co. of San Francisco.

The acquisition involved exchange of Boise Cascade stock for more than 95% of the outstanding Ames Harris stock.

Both firms are manufacturers.

Ames Harris has plants in Berkeley and San Francisco, Cal., and Portland, Ore. The Idaho firm announced that Ames Harris will manufacture bags from paper made by a pulp and paper mill at Wallula, Wash.

BAG FIRMS NEGOTIATE

NEW YORK — Union Bag-Camp Paper Corp. has announced that it is negotiating a contract to acquire all of the issued and outstanding stock of Universal Paper Bag Co. of New Hope, Pa., a maker of multiwall paper bags.

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This gigantic sales platform ties in Staley's four fall promotions to bring more people into your store. A poultry feeds Jingle Contest in which your customers can win as much as $1,000 in Staley's Feeds is only part of it. There is a special hog feed tool kit deal . . . a special beef feed booking plan and a dog food prize stamp program . . . all wrapped up in the Staley's Fall Feed Fair—your *own* local event.

Page and double page ads in state farm papers back you up. Huge imprinted mailers are provided for your own mailing list. Direct mail cards, newspaper ads, radio and TV spots—everything you need to create excitement in *your own trading area*—are provided. Banners, posters, literature—nothing is overlooked to bring more people to *your* Feed Fair. Drop us a line. We will be glad to tell you more about it.

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For instance, Staley's policy is not to place franchises so close together that you'll be competing with another Staley's dealer. You may be amazed at the variety and extent of services you get with a Staley's Feed Franchise: aggressive resale help and alert local promotion; efficient milling and remodeling counseling, and feeder contract financing.

It could pay you well to get the entire Staley's story. A representative will be glad to visit you at your convenience . . . mail us a card or letter to learn how you can make more profit when you "go confidently into the future with Staley's."

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250,000 Attend USDA Farm Presentation At Italian Levant Fair

WASHINGTON—More than 250,000 people were attracted to the U.S. demonstration of animal feeding, poultry raising, and poultry products at the Levant Fair in Bari, Italy, which closed recently, according to the U.S. Department of Agriculture.

The U.S. Pavilion at the Fair contained a USDA exhibit designed to promote new agricultural markets abroad. The exhibit featured latest developments in animal feeding techniques and in poultry raising for meat and egg production.

Many U.S. producers of poultry breeding stock sent their products to the Fair for the display, which was designed specifically to create interest among Italian farmers for U.S. feed components, for selected poultry, and for frozen chickens and turkeys processed for marketing by latest U.S. methods. Corn, grain sorghums, and soybean meal were especially featured.

The Institute of American Poultry Industries was represented at the Fair to stimulate the sale of U.S. frozen poultry in Italy which imports much of this commodity from Northern Europe. The Soybean Council of American organized a discussion session for exchange of information between U.S. feeding experts and the technicians of the Italian Federation of Farmer Cooperatives, which handles about 60% of the country's mixed feeds.

The USDA arranged for four leading livestock, feed and poultry experts to attend the Fair and consult with Italian distributors interested in importing U.S. agricultural products. They were Prof. S. L. Balloun, professor of poultry nutrition, Iowa State College; William H. Crotinger of Towner, Colo., producer of wheat and grain sorghums, representing the Kansas Wheat Producers Assn.; Dr. J. W. Hayward, director of nutrition, Archer-Daniels-Midland Co., Minneapolis, and Dr. J. L. Krider, vice president of the Central Soya Co., Inc., Ft. Wayne, Ind.

These experts presented papers on the feeding of poultry, dairy and beef cattle, and swine to more than 500 Italian technicians attending a feed convention Sept. 19.

CATTLE COMPANY FORMED

COLORADO SPRINGS, COLO.—Articles of incorporation have been filed here for a cattle company. Filing were Channing Sweet, Emory Hill, Jr., and Robert B. Murray. Purpose of the company is to purchase, feed and sell beef cattle and other domestic animals or lease properties to be used for pens or grazing land or other purposes incidental to cattle business, and to engage in the feed preparation business, the articles read.

DPI Names Assistant General Sales Manager

ROCHESTER, N.Y. — Wallace J. Quick has been appointed assistant general sales manager of the Distillation Products Industries (DPI) division of Eastman Kodak Co., it has been announced by Robert L. Edwards, DPI general sales manager.

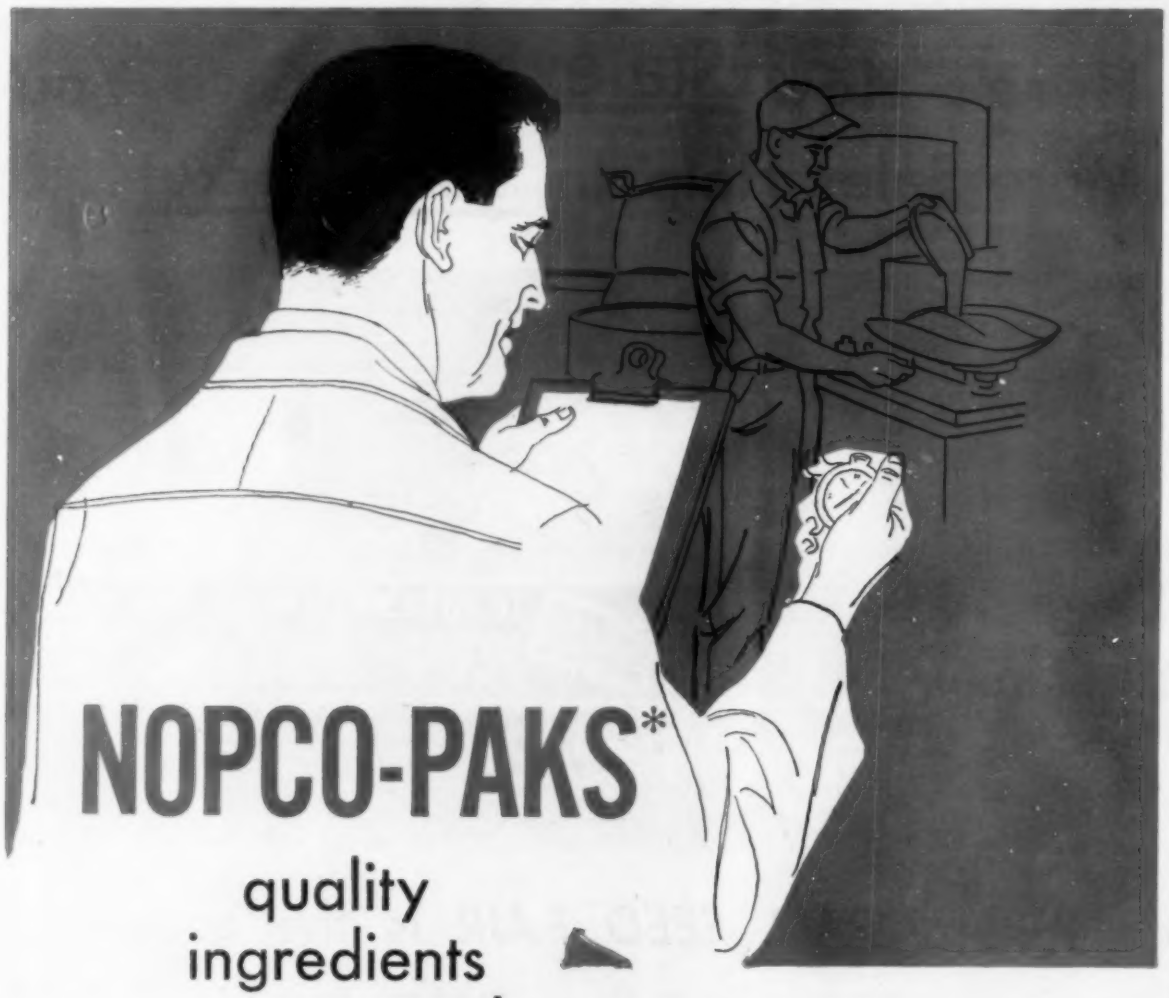
The announcement also stated that John F. Hanrahan has been named Chicago district sales manager to succeed Mr. Quick, who will be located in Rochester. Others in new sales positions are Gunther H. Doerfert, formerly of the Kansas City territory, whose headquarters are to be in Dallas, and Norris Gilliam, Jr., who will now be located in Atlanta, Ga. The two salesmen were formerly connected with the DPI office in Memphis, which has now been closed.

Mr. Quick joined DPI in 1941 as a technical salesman. He started and has headed the DPI sales office in Chicago since 1945. He is a graduate of Clarkson College of Technology, Potsdam, N.Y., with a degree in chemical engineering.

Mr. Hanrahan started at DPI in 1949 as a research chemist and transferred to the sales department in 1951. He established the sales office in Memphis, where he served until being named to his present post. He is a graduate of the University of Rochester (N.Y.) with a degree in chemical engineering.

ELECTED DIRECTOR

NEW YORK—Robert W. Magnus, Jr., assistant treasurer of Magnus, Mabee & Reynard, Inc., was elected to the board of directors of the Junior Chamber of Commerce and Young Men's Board of Trade of New York. Mr. Magnus has been active in the organization since 1955, particularly in the drug, chemical and allied trades section, where he was chairman of the membership committee.



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White's

Thoughtful Planning Builds Volume for Firm's Mobile Mill

By JESS F. BLAIR
Feedstuffs Special Writer

Henry Ross, owner of the Ross Seed & Grain Co., Chickasha, Okla., with his sons, Joe and Walter, says that one good way to do business with farmers is to take the business to their farms. This is something his firm has been doing with a mobile feed mill, and it is being done in a way that emphasizes efficiency of mill operation as well as efficiency for the farmer.

Since the mobile unit was added, the firm has been watching its operations and has come up with some important, basic advice for the successful operation of such a unit.

The first requirement, Mr. Ross said, is to work out an efficient schedule, making sure that the farmer will be at his place at a certain time, or that he will have someone else there. In connection with this, he said, it is important to allow enough time to take care of any delays. If the truck's schedule is too tight, then a delay may cause the next farmer to wait an hour—a situation which does not help mill-customer relations.

It is also important, he pointed out, for the feed mill owner to know livestock and feeding rations. The farmer may have a ton of maize and a ton of corn and perhaps some hay or some other feed to be ground and mixed into a good feed ration. With this he needs protein and minerals, and he may want it sweetened with molasses. But he probably won't know how much of each to put into the ration, so the mill owner must be able to figure it out correctly, Mr. Ross said.

Another problem involved in a tight schedule is that the farmer may not have his check book handy. When a farmer signs up for mobile service with Mr. Ross, an arrangement is made.

"Most of our customers have been in business several years," explained Mr. Ross, "so there is little trouble on credit. We give 30 days credit, but this makes up only about 20% of the gross volume."

The trade area for the Ross mobile feed unit extends about 20 miles from Chickasha. It is an area of diversified farms, with most farmers keeping a few head of livestock. This makes it a profitable area for a custom operation, Mr. Ross says. Such a mill might not be needed where there are large commercial feeders who must buy all their feed, he said, nor may it be profitable in some specialized feeding areas where the owner may want complete feeds.

"Of course, the distance to the customers' farms must also be considered," he said. "You need to have several dozen potential customers within 15 or 20 miles of town. In thinly settled areas where farms are far apart, the longer hauls might pose some very special problems. The owner would need to work out price adjustments to take care of the extra milage and expense."

EFFICIENT UNIT — Efficient routing and careful planning to avoid delays have made many new customers for the mobile unit operated by Ross Seed & Grain Co., Chickasha, Okla. The advertising on the Daffin unit brings many inquiries about the service, according to the owner.

Routing Procedure

The Ross mobile mill follows three routes with customers on each identified with different colored pins on a map. Checking these against the orders results in the shortest route for the truck.

Mr. Ross said that among the advantages gained with the mobile mill besides the time saving to the farmer, is a better relationship between the feed man and his customers.

"Before we got the mill, I hadn't visited some of these fellows on the farm for two years," he said. "Now, we're out there with them a lot, looking at their crops and livestock and hearing their problems. It has enabled us to get their slant on things. We've been able to help them with management problems, particularly in promoting better feeding methods."

The firm now plans to add two more mobile units and place them at El Reno and Duncan, where it owns retail stores.

"As farming becomes more specialized," he said, "farmers demand more services and their time is more valuable. The mill fits nicely into such a trend."

Swine Encyclopedia Available from Ranger

DELPHI, IND.—The availability of the Ranger Swine Encyclopedia has been announced by the Ranger Equipment Co.

The book contains 26 sections covering hog production subjects from the selection of gilts and breeding stock to five methods of finishing. Cost of the book is $10.25 and copies can be secured from Ranger Research, Delphi, Ind.

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WHAT'S NEW IN FEEDING?

Putting Research to Work

By Spencer H. Morrison, Ph.D., D.V.M.

The Influence of Feeder Space Upon Chick Growth

● W. H. McCluskey and L. E. Johnson, Oregon State College; Poultry Science, Vol. 37, No. 4, July, 1958, pages 889-892.

ABSTRACT

Five experiments were conducted during the period from 1955 to 1957. In three experiments an equal number of male and female chicks of the New Hampshire, White Plymouth Rock, and crossbred (Lancaster X N. H.) breeds were used, respectively. The other two trials were conducted with White Leghorn chicks brooded as laying flock replacements. The broiler birds were allowed 1 sq. ft. of floor space, while the replacement birds were allowed 1½ sq. ft. of floor space. The heavy breeds were fed broiler mash while the replacement birds were fed a standard chick starter. The productive energy content of both rations was estimated at approximately 940 Calories per pound, and all feed was fed as mash. Feed consumption was recorded in all experiments which were hand-fed, but not in those fed mechanically. Body-weight data were subjected to statistical analysis in four of the five trials. The heavy-breed birds were weighed at two week intervals by bulk-weighing, and at the completion of the trial both individually and by bulk-weighing. The replacement birds were weighed only at the completion of the study by bulk-weighing.

Trial 1—Four duplicate pens of 130 New Hampshire mixed sex chicks brooded in late spring were fed using metal trough feeders filled about one third to one half full, with feeder space adjusted for mortality. The feeder spaces allowed the groups were as follows: Group 1, 1 in. throughout the nine-week trial; Group 2, 1 in. to three weeks, 2 in. from three weeks to nine weeks of age; Group 3, 1 in. to three weeks, 3 in. from three weeks to nine weeks of age; and Group 4, 2 in. to three weeks of age, 4 in. from three weeks to nine weeks of age.

No significant differences were observed between the various groups of birds with respect to average body weight, feed conversion, per cent mortality, cannibalism or actions of birds. It was necessary to feed the birds in Group 1 more frequently than the other ones—an average of 3.88 times a day throughout the experiment, versus an average of only 2.41 times a day for the other groups.

Trial 2—Four groups of White Rock chicks were fed with either hanging tube type feeders or with troughs. Group 1 had ½ in. per chick by hanging tubes; Group 2, 1 in. of hanging tube feeder space per chick; Group 3, 1½ in. of hanging tube feeder space per chick; and Group 4, 2.4 in. of trough space per chick. Each group consisted of two replicated pens of 150 chicks, equal in females and males.

The results indicated that birds allowed only ½ in. of hanging tube feeder space per chick made as good growth and as efficient conversion of feed as those receiving as much as 1½ in. of space per chick. The birds receiving 2.4 in. of trough space made significantly better gains than those on tubes (average 3.07 lb. at 9 weeks versus an average of 2.98 lb.). On the trough feeder there was also a trend towards less mortality and better feed conversion.

Birds on the smaller amount of feeder space appeared to be more active, but no differences were observed between groups regarding feather picking or feathering. Birds fed all the time due to infra-red brooding.

Trial 3—Four groups of crossbred (Lancaster X N. H.) chicks were allotted to four different amounts of mechanical feeder space (½, 1, 1½ or 2 in. per chick, respectively). All groups were limited to 13 hours of controlled lighting per day. All groups, with the exception of the 2-in.-per-chick group, consisted of 240 birds, unreplicated. The 2-in.-per-chick group was replicated, and consisted of 480 chicks.

The results at 10 weeks of age showed that those birds on the least amount of feeder space performed as well as those receiving more space with respect to average body weight and mortality. No feed records were kept.

Trial 4—Three lots of approximately 350 replacement White Leghorn pullets were fed with trough type feeders on 1 in. of feed space until four weeks of age. From four to ten weeks of age, one group was allowed 1 in. of trough space; the second group was allowed 2 in., and the third group, 3 in. of feeder space per chick.

No statistical differences were ob-

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served in body weight between groups. The smaller amount of feeder space required more frequent feedings. Pens containing more feeders required more time to clean. Feed efficiency was unaffected by treatment.

Trial 5—Three groups of 299 White Leghorn pullets were fed on a mechanical chain type feeder. The amounts of feeder space allowed per group were: ½, 1, or 2 in. per chick, respectively. Although statistical analyses of the results were not made due to bulk-weighing, there is an indication that heavier weights were achieved on more feeder space.

COMMENT

There are quite a few experiments conducted by the various colleges to determine the effect of feeder space upon performance of mature laying hens. Relatively few experiments have been conducted with chicks.

Texas workers (1957) have reported that broiler chicks allowed 1.5 in. of space up to three weeks of age and then increased to 3 in. per chick outperformed those receiving less space. These workers also reported that the response of male and female birds was about the same. Broilers receiving adequate feeder space were 0.04 to 0.15 lb. heavier than those receiving restricted feeding space.

Maine workers (1956) compared tube with trough feeding of broilers in three experiments, using the same floor area as allotted in the Oregon experiment reported above. The Maine group used less feeder space with tube feeders (average of 1.4 in.) than with the troughs (average of 3.05 in.). In spite of this feeder space difference, the results in terms of growth, feed conversion and mortality were equal regardless of type of feeder used.

The Oregon work gives some indications supporting both viewpoints. In some of their trials there is no difference, in others an indication that better results are had with increasing feeder space.

It has always been the opinion of informed feed men and broiler growers alike, that increasing feeder space along with adequate floor space was essential to success. True enough, it is hard to demonstrate consistent results in improvement in all cases under controlled experimental conditions. Field men would be wise to recommend adequate feeder space even though it may not necessarily pay off all the time.

It is also a commonly held opinion that mechanical feeders do not give the same results with broilers as hand-feeding. The difference observed is probably a matter of not walking through the houses enough to keep the birds moving. If the "floors are walked," many growers feel that mechanical feeders are fully as good as trough or tube feeders.

Personally, it has been my opinion that ventilation, floor-space, watering space and feeder space are all interrelated. It is hard to single out one item alone for testing. It would be desirable for some university to conduct a well-designed factorial experiment to get at these interrelationships. We do not have all the answers at present.

Frank Bever

DISTRICT SALESMAN — Geerlings Feed Mills, Waterloo, Iowa, has appointed Frank Bever, Gowrie, Iowa, as district salesman covering the west central section of the state, according to C. W. Lewis, sales manager of the company. Mr. Bever was formerly a sales representative for Walnut Grove Products and Moorman's. Before entering the feed business he farmed near Gowrie.

●

Timely and Worth Noting

There are two interesting and informative review articles in the current (July, 1958, Vol. 37, No. 4) issue of Poultry Science, both well worth reading:

(1) Advances in Knowledge of Poultry Diseases Over the Past Fifty Years, by H. J. Stafseth, Michigan State University.

(2) Factors Affecting Egg Quality —A Review, by D. H. Sherwood, Larro Research Farm, Indianola, Iowa.

Service men will be interested in both articles, while feed men in general will be particularly impressed with Sherwood's review. Such things as influence of feed upon interior egg quality, yolk defects, egg size, shell color, meat and blood spots are all discussed. This review of factors affecting egg quality may be good ammunition to fire back at customers when such problems crop up in the field!

FEED STORE OPENS

SONOMA, CAL. — The Vineburg Feed Co., handling a variety of bulk and packaged feeds, opened here recently. Owners are George and Eleen Nicholas of 2300 Napa Road.

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Long Range Planning Is Necessary

By Al P. Nelson

Moonlight was streaming through the windows when Mary Brooks woke up in the middle of the night. Looking over at the other twin bed in the room, she noticed that Joe was not in it, the sheets were thrown back and the pillow mussed up.

Mary rubbed her eyes, then sat up in bed. The bedroom door was open and Mary thought she saw light from a downstairs room. She got up and put on her robe and went down.

There at a dining room table, she saw Joe scribbling on some paper. He wore a bathrobe and his hair was tousled.

"Why, Joe!" Mary exclaimed. "What in the world is the matter? Couldn't you sleep?"

Joe grinned, and smoothed down his hair with one hand, while his other hand still held a pad of paper. "No, I woke up just like that!" he snapped his fingers. "I found I had a hot business idea churning in my mind and I couldn't go back to sleep. So I came downstairs and went to work on it."

"Oh, Joe," pleaded Mary, sitting down opposite him at the table, "isn't this carrying business too far? It's all right to work hard during the day at it, but when you wake up at night and work on ideas, isn't that too much?"

"Maybe it is," Joe agreed. "But what are you gonna do when an idea runs around in your head and won't let you be? You just have to play along with it."

One Week Not Enough

"I think you need a vacation," Mary said. "That one week we had wasn't long enough. Can't we arrange to take another?"

Joe shook his head and smiled. "No, I don't need another vacation, dear. I'm working this tension out of me right now. I'll be finished mapping out this idea in another half hour."

"I'll heat some milk for you and butter some crackers," Mary suggested. "That's make you go to sleep."

"No, not until I'm finished," Joe said, "but you can brew a cup of instant coffee for me. That'll keep my brain working in high gear until I get finished. I'll take milk and crackers after that."

"Just what in the world is this important idea you are working on?" Mary asked curiously. "Let me in on it."

"Oh, it's not sensational, if that's what you mean," Joe explained. "But for a feed man like me, it's darned interesting."

"Well, that's certainly letting me in on the deal," Mary said dryly. "I know an awful lot, now."

Joe smiled. "Mary, when you go to shop at the supermarket, do you buy more groceries than your list calls for?"

"I certainly do, Joe. Everything is displayed so nicely, and it just wants to make me buy. And when you come shopping with me, you buy so much, we need two shopping carts."

It's Not Enough

"Oh, come now," Joe said embarrassed. "I'm not that big a sucker. But, Mary, I have been thinking that farmers, feed dealers, manufacturers and grocers certainly don't play up the display and sales value of dairy and poultry products like they could. They just take it for granted that people want eggs, milk, butter, cheese and things like that, and lay low on promotional efforts. Of course the dairy and poultry industries adver-

NEW SEEDBURO Steinlite MOISTURE TESTER MODEL 500 RC

The improved, more convenient way to make YOUR GRAIN Moisture Tests!

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1 NEW ROUND FUNNEL — handles larger (250 gram) sample ...allows a more uniform drop into test cell

2 EASY-TO-READ, BUILT-IN, EYE LEVEL THERMOMETER

3 LARGE 9 INCH METER with ONE SCALE for ALL moisture ranges...Read from level position for absolute accuracy

4 ONE BUTTON CONTROL FOR ALL MOISTURES

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Now Test from a larger, more representative 250 gram sample for:

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NOTE: Tests are equivalent to the basic standards of the U.S.D.A.

You'll have to put the New Seedburo Steinlite Model 500 RC through its paces to find how easy and conveniently this improved model makes moisture tests. You simply drop the larger, more practical 250 gram sample into the test cell and read the meter...simple as that.

As added safety features the funnel resets itself automatically to hold next sample. Test cell slide snaps back automatically after tested sample is dropped into grain drawer...no danger of spilling new sample through open test cell.

Remember, for the fastest, most accurate moisture testing operation depend on the Seedburo full line of moisture testers—and for the improved and more convenient way to run grain moistures—ask about the New Steinlite Model 500 RC. Full information and the famous Seedburo service is as near as your phone.

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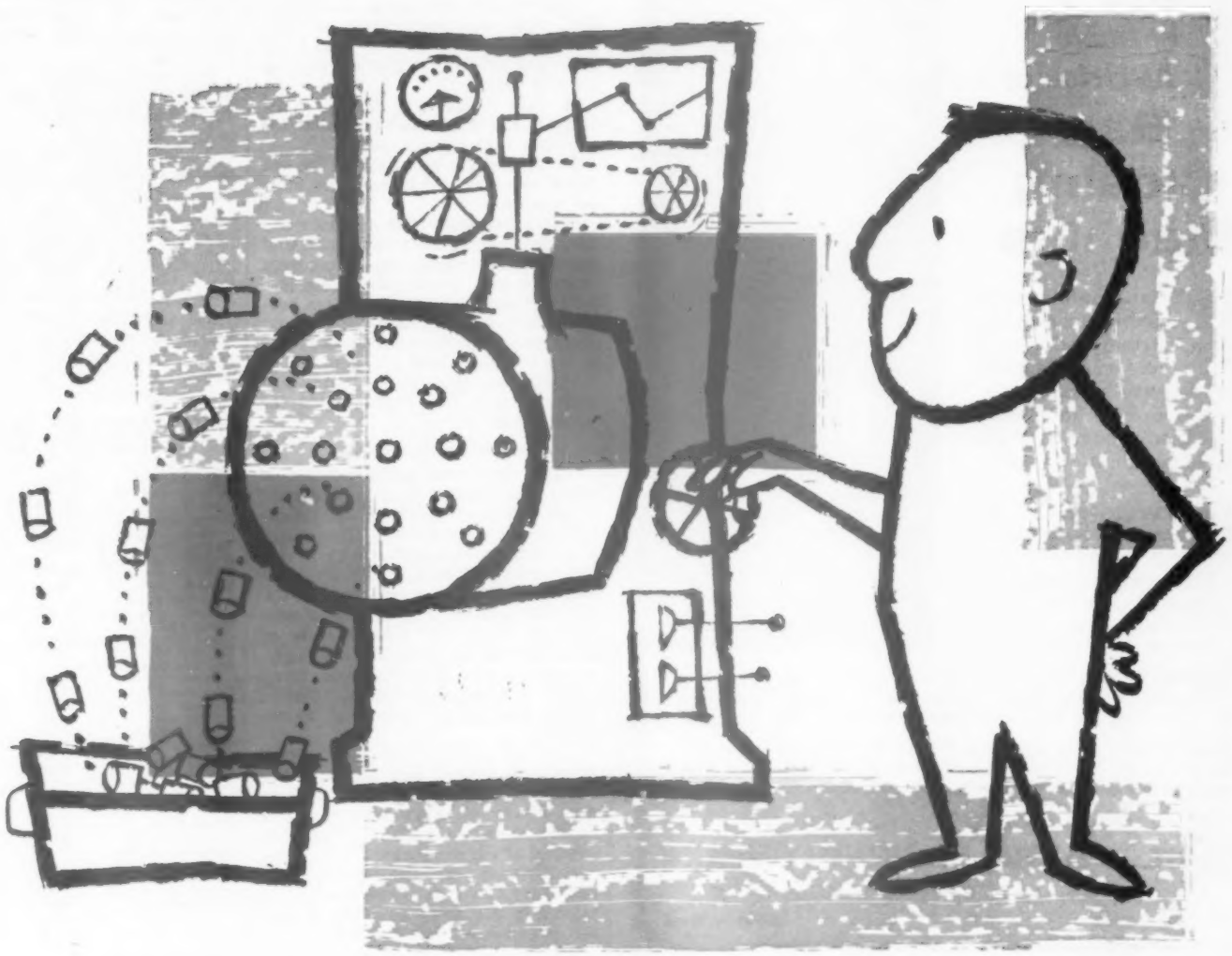

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This is just another example of the care Morton takes to make Morton Mixing Salts the finest obtainable, at *no extra cost to the feed mixer.* This same attention to quality from every standpoint goes into Morton Iodized Mixing Salt and Morton extra-free-flowing Special Mixing Salt. All three types are available at short notice through Morton's nation-wide distribution system.

Morton Trace-Mineralized Mixing Salt contains: **Salt, Manganoferro Phosphate, Ferrous Carbonate, Copper Oxide, Cobalt Oxide, Cuprous Iodide and Zinc Oxide.**

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CLASS 2100

Portable Electric

Bag Closing Machine

HERE is a handy little machine that makes bag closing fast, easy, and economical. It is recommended where operations are limited or intermittent and do not justify installation of large, high production machines.

- **LIGHTWEIGHT** – 9½ lbs. Carry it anywhere. No installation; requires only an electrical outlet.
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Investigate the exclusive profit-proved Ultra-Lifed Programs. Feed manufacturers from the Atlantic to the Pacific, from Canada to South America, are really building business with the outstanding, exclusive, Ultra-Lifed programs. **Write today for full details—no obligation**

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Main Office and Plant — EAST ST. LOUIS, ILLINOIS

One of the country's oldest and largest manufacturers of vitamin and trace mineral products.

tise but what we do at the local level is lamentable. We just don't, that's all."

Mary raised her eyebrows. "And what is the leading feed dealer of Hansen's Creek going to do about it?"

"Individually, not much, I suppose. But with the cooperation of the newspaper, the Douglas District Feed Club and grocers, maybe we can do a great deal."

"I still don't see how." Mary brought hot water and poured it into a cup with instant coffee.

Joe stirred the brew, sipped the hot liquid on a spoon so he wouldn't burn his tongue.

"I propose that once a month the feed dealers, hatcherymen, mills and stores in the county, run a full page ad in the local paper giving case histories of how individual farmers produce the health building poultry and egg products. Also we'll urge people to eat more of these products."

Mary was thoughtful. "And how will you stimulate more buying of those products?"

Promises to Be Impressive

"Well, when the public reads how much care farmers take in producing these products they'll think about buying them more often. They can't help thinking that, because these one page monthly ads will call their attention to the products consistently. Not only will we stress farmers' case histories, but we'll publish mats of people eating fried eggs, cooked eggs, eating chicken, drinking milk, using cream and butter and eating cheese, etc. A page ad like that will be impressive."

"I'll go along with that view," Mary said. "And I can suggest a tie-in. Arrange special displays at grocery stores of dairy products, and maybe mount a copy of each full page ad at the dairy case."

Joe looked very pleased. "Wonderful, Mary. That ad alone should get women to buy an extra pound of butter or gallon of milk, instead of some luxury product. That's what we want —more impulse buying, and you've got to have display, advertising or some other promotion to supply the extra push."

"But how about the cost of the ad, Joe? How would you work that?"

Joe smiled. "I've got that figured out, too. If I can get 27 feed dealers, hatcherymen and others in the county to underwrite a monthly full page ad, it would cost each firm $3. They'd have their firm name and type of business listed. It would show the public and farmers that these progressive men are really supporting the cause of better nutrition which calls for the use of more farm products."

"Well, I suppose no firm would complain about a $3 ad cost once a month. And who would get the case histories and take the pictures?"

"E. Basil Tucker, the newspaper editor. He likes the idea. I've worked out the ad rates with him. It was his suggestion yesterday that I rough out a first ad that got me thinking so much I woke up. I guess I'm about done now. How about that warm milk and crackers?"

Mary smiled. "I'll have it in a jiffy. Then get back to bed, big boy, and get some more sleep. Otherwise you'll be snapping at me and the twins by the end of the day. You're one chap who needs his regular sleep to keep his good disposition."

Joe sighed. "Gosh," he complained, "isn't it awful how an observing wife knows everything about her husband? Makes a fellow feel like a guinea pig."

NAMED DEPARTMENT HEAD

RALEIGH, N.C.—T. Carlton Blalock, former artificial breeding specialist for the North Carolina extension service, has been appointed head of the dairy extension department to succeed George Hyatt, Jr., who was named head of the department of animal industry at North Carolina State College.

Arkansas Feed Sales Show 9% Increase In Last Fiscal Year

LITTLE ROCK, ARK.—Feed sales in Arkansas during the 1957-58 fiscal year were 9% ahead of 1956-57, the Arkansas State Plant Board reported recently.

The increase, from 1,017,543 tons in 1956-57 to 1,112,406, totaled a little less than 95,000 tons. (See table 1.)

Broiler starter and grower feeds totaled 473,927 tons during the fiscal year—almost half of the total feeds sold. All other poultry feeds (not counting scratch feeds) were second high with 139,556 tons. Dairy feeds were the third high total for the year at 116,684 for the year.

The annual report also included the fourth quarter report of the fiscal year. Totals for the quarter were more than 15% of the previous fourth quarter.

TABLE 1. Arkansas Feed Tonnage Sales Reported for Fiscal Year, 1957-58 (July 1, 1957, Through June 30, 1958) (tons)

Classes of feeds	Arkansas	Out of state	Total
Dairy or cow feeds	45,379	71,305	116,684
Cattle and calf feeds	3,904	16,548	20,452
Turkey feeds	19,864	41,056	60,920
Broiler, starter and grower	245,078	228,849	473,927
Scratch feeds	4,417	2,838	7,255
All other poultry feeds	55,353	84,203	139,556
Horse and mule and all grain	27,405	5,858	33,263
Pig and hog	3,670	16,231	19,901
Dog and other small animal feeds	1,648	9,644	11,292
Cottonseed meal	43,803	15,724	59,527
Soybean oil meal	10,351	24,638	34,989
Alfalfa meal	486	1,792	2,278
Corn products	24,132	11,619	35,751
Wheat products	3,631	47,951	51,582
Oats products	4,752	1,510	6,262
Rice bran	2,610	34	2,644
Rice mill by-product	6,872	0	6,872
Other rice products	906	76	982
Other grains	3,384	474	3,858
Animal products	2,051	2,314	4,365
Brewers and distillers products	31	523	554
Milk products	16	1,518	1,534
Mineral feeds	116	3,364	3,480
Miscellaneous	2,277	12,201	14,478
Total	512,136	600,270	1,112,406
Tonnages reported, 1956-57	458,549	558,994	1,017,543

JAMES STEWART DIES

MINNEAPOLIS, MINN. — James R. Stewart, 84, who formed the Banner Grain Co. here, died recently.

The most complete line of DOG FOOD ingredients

from ONE source

BOXER BRAND

44% SOY CAKE-LETS
expeller, pea-size
CORN KIB-LETS
expanded . . . kibbled
CORN FLAKES
cooked . . . toasted
WHEAT KIB-LETS
expanded . . . kibbled
WHEAT FLAKES
cooked . . . toasted
EXPELLER SOY BEAN MEAL
and other ingredient specialties

Nowhere else can you secure such a major part of your dog food ingredients. By combining your ingredient purchases in cars, mixed cars or LCL you are assured of freshness, and better inventory control with lower inventory investment. BOXER ingredients are manufactured by us specially for dogs—they are "prime" products, and not "by-products." Write for current prices and literature.

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QUALITY DOG FOOD INGREDIENTS

SERVICE BULLETIN for members of the feed and poultry industries

Broiler Production Charts

Daily Broiler Feed Consumption
(Per 100 Birds)

Age of Birds (wks.)	Pounds of Feed
1	2.9
2	4.0
3	6.5
4	9.2
5	11.0
6	14.5
7	16.0
8	18.5
9	21.0
10	23.0
11	25.5
12	29.0

Daily Broiler Water Consumption
(Per 100 Birds)

Age of Birds (wks.)	Gallons of Water
1	.45
2	1.1
3	1.5
4	2.0
5	2.4
6	2.7
7	3.2
8	4.1
9	4.2
10	4.9
11	5.2
12	5.5

Broiler Feed Conversion

(Pounds of Meat Per 100 Pounds of Feed)

Meat (Lb.)	Feed Conversion	Meat (Lb.)	Feed Conversion
30	3.33	40.5	2.47
30.5	3.28	41	2.44
31	3.23	41.5	2.41
31.5	3.18	42	2.38
32	3.13	42.5	2.35
32.5	3.08	43	2.33
33	3.03	43.5	2.30
33.5	2.99	44	2.27
34	2.94	44.5	2.25
34.5	2.90	45	2.22
35	2.86	45.5	2.20
35.5	2.82	46	2.17
36	2.78	46.5	2.15
36.5	2.74	47	2.13
37	2.70	47.5	2.11
37.5	2.67	48	2.08
38	2.63	48.5	2.06
38.5	2.60	49	2.04
39	2.56	49.5	2.02
39.5	2.53	50	2.00
40	2.50		

Prepared for members of the feed and poultry industries in the interests of better poultry health and nutrition. Merck & Co., Inc., Chemical Division, Rahway, New Jersey. Extra copies of this chart, and other articles in the series of Service Bulletins, are available on request.

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Double Check

Critical B Vitamin Levels in your

Chick Starter Rations

Modern broiler and chick starter rations with their high energy levels can jeopardize essential B vitamin intake two crucial ways. High energy ingredients like corn, fats, etc. are poor sources of B vitamins; at the same time the high energy content of these feeds decreases total feed consumption.

Since vitamin deficiencies rarely occur singly, and since natural foods vary in vitamin content, it's clearly good business to double check all B vitamin levels every time you change your formula or source of supply.

And don't forget to specify Merck Vitamin Mixtures because uniform vitamin dispersion is absolutely essential if every chick is to get the vitamins necessary to metabolize the increased calories.

Vitamin	Level for broiler starter (gm./ton)	Level for chick starter (gm./ton)
Riboflavin	**5**	**5**
Calcium Pantothenate	**14**	**14**
Niacin	**35**	**30**
Choline Chloride	**1200**	**1200**
Vitamin B_{12} (additional fortification) (mg./ton)	**12**	**6**

Ask the Merck Man

Technical information concerning microingredients is vital for the profitable use of these spark plugs for modern feeds. Yet scientific data on both nutritional and therapeutic microingredients are often hard to get, hard to find or so complex as to limit ready application. You can save time and make this essential information more usable by relying on your Merck Man. With one of the largest libraries, research groups and technical service staffs in the industry to draw on, Merck literature ranges from such diverse items as the recent monograph on "Procaine Penicillin"—surveying the use of this antibiotic in nutrition, disease, and stress—to the newsy Merck Agricultural Memo especially developed to keep feed executives up to date on recent scientific findings.

Research and Production for Better Poultry and Animal Nutrition

MERCK

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Promotions, Dealer Emphasis Boost Volume for Feed Firm

Zip Feed Mills, Sioux Falls, S.D., increases volume 400% in eight years by stressing dealer-wholesaler relationships and active promotions

By Jess F. Blair
Feedstuffs Special Writer

In Sioux Falls, S.D., the most imposing building is the Zip Feed Mills elevator that looms 200 ft. into the air. Yet it is no more imposing than the sales record of this firm. In becoming one of the largest firms in this area, the managers have done several things not in accordance with modern trends.

The most radical has been to get away from direct selling. The company does haul in bulk quantity to customers, but confines this practice to an area adjacent to Sioux Falls. Instead, the managers have stressed the dealer-wholesaler partnership in all their promotional work.

"Because we protect our dealers, we now have more than 200," said Eldon Steele, sales manager, "and they are scattered throughout the eastern part of the state, and in parts of Minnesota, Iowa, Nebraska and North Dakota."

Economy of Dealers

Mr. Steele says that dealers take the place of direct salesmen, and they eliminate the need for making long, expensive hauls from the mill in Sioux Falls.

"We find it a better plan to ship to the dealers; then they can make their own deliveries within a small radius," he said.

Since its start in 1939 when Zip's president, Paul Batcheller, opened a small feed store, the firm has grown rapidly. In 1949 and 1950 the firm was consolidated with the Sioux Falls Milling Co. Mr. Batcheller started eliminating some of the farm supplies formerly handled and began concentrating on the manufacture of feeds.

In the fall of 1956, the company completed one of the largest and finest electrically-operated feed mills in the country. It has a capacity of 12 tons an hour, with bin storage of 250,000 bu., warehouse space for 2,200 tons and bag storage of 200,000. The mill now makes about 40 different kinds of feed under its own brands. Sales have increased 400% since 1950.

Managers at Zip Mills think their success can be attributed to two things—promotion and customer service. When they think some new feeding or management project will make money for farmers, they investigate it thoroughly. If it proves to be a good thing, then it is soundly promoted, incessantly beamed in their advertising, discussed with farmers in their homes or in the field and then, after it gets started, Zip and its dealers work constantly to make the project a lasting success.

Some of this sales work falls upon Mr. Steele and the advertising manager, Everett Holst. It is their job to furnish the publicity and get everyone behind the project.

Importance of Good Will

"In this work, I think the creating of good will is very important," Mr. Steele said. "We try to accomplish this in several ways. First, of course, the farmer must make more money or the whole thing fails. In the beginning, we hold meetings, visit with him and stay right with him until he gets started. Help from trained specialists is available and free at any time. Whether it pertains to laying hens, turkeys or hogs, the new producer must be carried along until he is acquainted with all the problems and knows how to solve them."

The company has various types of giveaway programs conducted through the dealers. Each month their Zip News goes into the homes of over 60,000 farm families. It is a well-written four-page newspaper, chatty in style and filled with news stories and pictures of farmers and their families.

Each of the six Zip salesmen is a photographer, and he takes pictures of farmers and their livestock or poultry. There will be a short success story telling where the family lives, what it is doing and some of the methods used. After each picture is made up, the office sends a glossy enlargement to the family.

Gift Promotions

In the paper, the different giveaway articles are mentioned. It shows a picture of the 14 by 20-in. metal drive-way signs which farmers can get free at their Zip dealer by buying 200 lb. of Zip Feeds. Over 10,000 of these signs have been given away.

Another item is a cookie jar given to housewives. This causes a rush to the local Zip stores, with from 10,000 to 12,000 jars being taken last fall in a few weeks.

In each edition of the Zip News, the managers try to have a story in which a banker, county agent or agricultural teacher takes part. This may be a public weighing of livestock or a field trip to some farm. If possible, the editors try to get a statement from the visitors.

"We try to work very closely with bankers and county agricultural agents," said Mr. Steele. "If a bank president tells farmers they need more chickens or hogs to boost the family income, it is far more effective than a statement from us."

The giveaway programs help increase store traffic for the dealers and acquaint people with Zip's feeds and customer services, but this will not keep the customers coming back unless they can profit from it. The managers and dealers realize this and channel all their efforts into helping the farmer make more money. Yet many farmers need to be shown new methods and then must have sustained help for the first few months.

Service to Customers

"Some of this training can be done in the retail stores," Mr. Steele pointed out. "Many of our dealers conduct their own feeding tests right in their places of business. We put animals on feed where people can see them, then keep a record of feeds consumed, costs and weight gained. Usually we like to have disinterested people help with the weighing, such as bankers or business men."

"But what about these 200 dealers?" he was asked. "Don't you have some weak ones in the group—men who are not progressive and who refuse to risk their own money and time on something new?"

"Regrettably we do," Mr. Steele said, "but not many. We have found that some dealers are harder to convince than farmers. Some of them, like some farmers, have been doing things the same way for a long time and they refuse to accept new feeding and management practices.

Dealer Encouragement

"But if the dealer is sound, if he is honest and well respected in his community, we don't want to lose him, for he will be carrying three-fourths of the load. So we try to change him. We show him how things are done in other areas, he is taken on field trips, brought to the head office and everything is explained in detail. I am not criticizing the dealer, but trying to point out that he is a busy man and hasn't had a chance to keep up with everything in a fast-changing field. So that's why we are patient with these fellows and do all that's possible to get their cooperation."

In the Zip program, the dealer is the focal point of every sale. The company will not sell direct to customers in his area, if he will accept his share of the work and responsibility.

"We think this dealer tie-in is a sound way of selling feed," Mr. Steele said in conclusion. "We've lost a few but not many. By giving them a protected territory and by lending the company's help in sales, promotions and the technical excellence of our mills and its trained experts, these dealers have also been increasing their profits.

"In speaking of that 400% sales increase in eight years, I'd like to say that our Zip dealers have carried their share of the load, and we're proud of them."

Paul Batcheller | Everett J. Holst | E. W. Steele | Molly Haugen

ZIP FEEDS PERSONNEL—Left to right are some of the officers and personnel of the Zip Feed Mills, Sioux Falls, S.D. Paul Batcheller is president and founder of the firm. Everett J. Holst is advertising manager. E. W. Steele is sales manager, and Molly Haugen is the editor of the Cook's Nook, a popular feature of the Zip News, a publication sent monthly to 60,000 farm families.

ZIP PROMOTION — Clifford Foss, South Dakota farmer, sportsman and brother of South Dakota's governor, Joe Foss, posed for this picture to be used in a promotion in which more than 12,000 sun helmets were given as premiums with Zip Feed.

VARIED PROMOTIONS — Several promotions are offered by Zip Feed Mills, Sioux Falls, S.D., and its dealers. This one is a "For Kids Only" bike contest offering 150 prizes. Marv Zebell, manager of the Sunshine Hatchery, Sioux Falls, receives an entry from a prospective customer.

ZIP MILLS SPORTS TOUR—Approximately 100 dealers for Zip Feed Mills, Sioux Falls, S.D., are pictured as they left chartered buses in Milwaukee for the Milwaukee County Stadium to see the Milwaukee Braves in action. The sports tours are annual events, and dealers qualify for them on the basis of increased Zip Feed sales.

Impact Mill Used in Soybean Processing

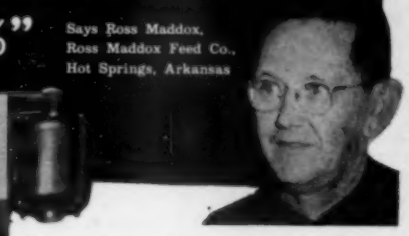
NEW HAVEN, CONN.—Safety Industries, Inc., reports that its "Entoleter" centrifugal impact mill is now being used in the production of 50% protein soybean oil meal.

The mill, the company says, is substituted for certain phases of the process of extraction.

The unit, it is explained, consists of a rotor which spins materials at high speed, hurling the material against the stator wall. The soybean meat is broken free of the hulls, making separation "positive and thorough," the company said.

"Our BROWER MIXER increased feed profits 20%"

Says Ross Maddox, Ross Maddox Feed Co., Hot Springs, Arkansas



"Our Brower Mixer has increased our profits about 20% on the feeds we mix to sell. We also do custom mixing, and give the mixer credit for increasing the number of our customers about 10%. The mixer has given us the kind of trouble-free service that adds up to real satisfaction."

BROWER
Whirlwind
MIXER

Dependability, fast mixing action, and low cost operation make Brower the WORLD'S LARGEST SELLING MIXER! Brower action WHIRLS the ingredients instead of just stirring or tumbling them . . . produces the most thorough mix you can get. Every sack has the same even mixture.

FAST and ECONOMICAL—a perfect blend in about 10 minutes at a power cost of only 3¢ to 5¢ a ton. Five sizes —700, 1200, 2000, 3000 and 4000 pounds-per-batch mixing capacities. Above-floor and below-floor models. Heavy welded steel construction—built for years of trouble-free service.

Interior readily accessible through large hinged service door and hinged conveyor sleeve.

Notice the mixing paddle at top which WHIRLS the ingredients for the most thorough mix.

Glass observation window at eye level provides easy inspection of mixed feed at any time.

WRITE for FREE CATALOG

BROWER MFG. CO.
402 N. 3rd, Quincy, Ill.

World's Largest Selling Mixer

SPEAKS IN SOUTH AFRICA — Dr. Carl E. E. Bunn (standing), Merck veterinarian, is shown addressing feed and poultry industry representatives of South Africa during his recent visit. Left to right on the picture are: J. A. van der Merwe, chief nutritionist, Vereeniging Consolidated Mills, Ltd., Johannesburg; L. Jaffee, managing director, Vereeniging; Dr. Bunn; G. Hibbert and Mr. Jacobs of the South Africa egg control board, and M. Letty, manager, South African Poultry Assn. Mr. Jaffee attended the American Feed Manufacturers Assn. convention held last spring.

Sinusitis Research Project Announced

MANHATTAN, KANSAS — Further progress toward a rapid and satisfactory method of diagnosing infectious sinusitis in turkeys is promised in a research program now in progress at Kansas State College.

The National Turkey Federation said the progress will come through a grant of funds provided by its research committee for use in evaluation of present laboratory tests for diagnosing the disease.

Dr. Lester E. Erwin, bacteriologist at Kansas State College, will be checking the reliability of present tests. He also wants to determine whether the tests are simple enough to be performed accurately outside the research laboratory, the federation announcement said.

"If history repeats itself," the announcement stated, "real progress against a disease like infectious sinusitis can be expected when a reliable method of early diagnosis is available. When the disease can be detected before obvious symptoms appear, it should be possible to combat spread of infection by well-known methods of sanitation."

Dr. Erwin has been studying poultry diseases 22 years. He spent 10 years on the faculty of the University of Rhode Island before joining the Kansas staff 12 years ago.

Amended Act Covers All Livestock Deals

WASHINGTON—A recent amendment to the Packers and Stockyards Act, H.R. 9020, as passed by the 85th Congress, extends jurisdiction of the Department of Agriculture to cover all livestock transactions in interstate commerce, USDA reported. Previously, only packer transactions and livestock transactions on stockyards of 20,000 sq. ft. or larger were subject to the provisions of the act.

The new amendment, administered by USDA's Agricultural Marketing Service, now brings to many more farmers and livestock producers the same measures of protection already being provided to those patronizing posted yards. The department's activities under the provisions of the act, made applicable to livestock transactions brought under the act by this amendment, will be increased.

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THE A. B. CAPLE CO.
Toledo 5, Ohio

Yes!
He's looking for some of your dog food made with our complete dog food cereals

★ TOASTED CORN FLAKES
★ TOASTED WHEAT FLAKES
★ CORN GRANULES
★ KIBBLED CORN
★ KIBBLED WHEAT
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Linear Programming—Part 2

The "Simplex" Method of Linear Programming Applied to Feed Mill Problems

The principles outlined here can be used to solve problems so complex that one could never hope to solve them in any other way

By Dr. Robert F. Hutton
Pennsylvania State University
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EDITOR'S NOTE: This is the second in a series of articles explaining what linear programming is and how it may be used in the feed industry. The author, Dr. Robert F. Hutton, is an agricultural economist at Pennsylvania State University and has done a good deal of work on the linear programming technique and its use in solving feed mix problems in particular. In this article, he tells how the procedures of linear programming are applied to feed mix problems, and in the following articles he will outline specific techniques. Linear programming already is being used by a number of feed companies in feed formulation, and it is expected to be used by more firms—not only in computing least-cost formulas but also in other phases of feed mill management problems.

In the previous article of this series, we discussed how linear programming can be used to solve your feed formulation problems. We also related this technique to old and well established techniques now used in feed mix formulation problems. In that article we talked around the subject of actually solving your problems in a practical manner by use of linear programming.

In this article we will discuss the logic of the procedures used in the practical application of linear programming to feed mix problems. In subsequent articles we will deal with specific techniques involved in applying the logic of the method discussed here. Also, we will go beyond the feed mix problems in the subsequent articles to deal with broader aspects of mill management problems.

THE BEGINNING "TRIAL" SOLUTION—The solution method generally employed in linear programming is termed the "Simplex" or some modification of the "Simplex" (1). As applied to a feed mix problem, the "Simplex" involves the use of an "artificial" solution to the problem as a beginning point. This artificial solution is guaranteed to be more expensive than any true solution. Thus, as the solution routine proceeds, this "artificial" solution is replaced by a "real" solution and ultimately by the least cost "real" solution.

We will illustrate how we go about setting up a first solution by "talking through" a problem. Suppose we are interested in a very simple dairy feed that has the following specifications:

(a) at least 1,500 lb. of TDN per ton;

(b) at least 320 lb. of protein per ton.

This may look like only two specifications, but there are really three. The specification that is hiding is that for weight. We can, of course, set weight at any level, but we must see that the ratio of TDN and protein per ton of weight is as (a) and (b) respectively specify.

Now, you'll need to give your imagination a little rein. You are required to imagine an "ingredient" that is pure, 100% TDN, is completely weightless and without protein content. While you are in this frame of mind, also imagine an "ingredient" that is "pure," 100% protein, is weightless and contains no TDN. The last requirement is much less of a strain upon your imagination. You are required to imagine an ingredient that has weight but contains no TDN or protein. You can now obviously solve your mix problem using these "imaginary" (let's call them "artificial" from here on) ingredients. It would be—

1,500 lb. of artificial TDN;
320 lb. of artificial protein;
2,000 lb. of artificial weight.

This is a "basic" solution, or an "initial basis," in linear programming terminology.

Assign Costs

To continue with the solution routine under the "Simplex" procedure, we need to assign costs to our artificial ingredients. We want this cost to be high enough to assure that some real ingredient or combination of ingredients will be lower in cost. To make the arithmetic easy, let's assume a cost of $1 per pound for these artificial ingredients. Our artificial solution would therefore, cost $1,500 + $320 + $2,000 or $3,820 per ton, a figure we should be able to beat!

We need now to consider the concept of "equivalent combination" which we discussed in connection with the "cottonseed-corn" constants. As you will recall, we pointed out that each set of the "cottonseed-corn" constants was the combination of cottonseed and corn that is equivalent to the ingredient being valued in terms of TDN, protein and—we didn't mention this earlier but may add—weight. The cottonseed and corn is an "equivalent combination" to the ingredient being valued.

Let's apply this concept to our present problem. Suppose we have a real ingredient, say "SOM," which has a TDN value of 1,600 lb. per ton, a protein value of 880 lb. per ton and weight, of course, of 2,000 lb. per ton. We can, obviously, form an "equivalent combination" of our artificial ingredients that is exactly equal to "SOM." This would be—

1,600 lb. of artificial TDN;
880 lb. of artificial protein; and
2,000 lb. of artificial weight.

If this combination is equivalent to "SOM," it follows that "SOM" is equivalent to this combination. Therefore, we can value SOM in terms of how much it would reduce cost of the mix if we used it instead of our "artificial" ingredients. Since each pound of the artificial ingredients costs $1 (according to our assumption), the "SOM" is worth $1,600 + $880 + $2,000 or $4,480 per ton. Not all of this would be net saving, however, since "SOM" costs something. Say, it costs $90 per ton, then the saving would be $4,390 per ton of "SOM" used.

Substitution Coefficients

What we have just done for "SOM" we can do for all the other ingredients we wish to consider in formulating our feed. We can, in fact, set up a table which summarizes the relevant information on all the ingredients. Table 1 is such a table for four ingredients in which the substitution coefficients are expressed in decimal fractions of a ton for simplicity of presentation.

The substitution coefficients given in Table 1 are in terms of amounts per ton but there is no guarantee that we can use "SOM" at the ton level. We can substitute "SOM" for the other ingredients only so long as we have some of the other ingredients to displace. We have enough "artificial weight" and enough "artificial TDN" to permit us to use a ton of SOM, but we do not have enough "artificial protein." Each ton of SOM displaces .44 T. of "artificial protein" and we have only .16 T. to displace from our initial solution. Thus, we can add only .16/.44, or .36 ton of SOM. If we add .36 of a ton of SOM, we can displace (.36 × .44), or .16 T. of "artificial protein" (.36 × .80) or .29 T. of artificial TDN, and (.36 × 1.0) or .36 T. of "artificial weight." The new solution will be—

0 T. artificial protein;
.46 T. artificial TDN;
.64 T. artificial weight;
.36 T. SOM.

This is much lower cost than the initial mix using all artificial ingredients, but it still wouldn't set any sales records. The cost is (.46 × $2,000) + (.64 × 2,000) + (.36 × 90) or $2,232.40 per ton. We can beat this!

Our next step is that of developing a new set of substitution coefficients for the other ingredients in terms of "artificial TDN," "artificial weight" and SOM. We can forget about "artificial protein" since all of it has been displaced. The substitution coefficient for SOM is fairly easily obtained. In Table 1 we have the substitution coefficients of all the ingredients including "SOM" in terms of, among other things, "artificial

TABLE 1. Substitution Coefficients for Ingredients Considered in Illustrative Problem With Ingredient Costs, Displacement Value and Displacement Value Net of Cost Where All Ingredients Displaced Are "Artificial"*

Item displaced	Cost of item displaced ($)	Substitution coefficients for— SOM (T)	Corn (T)	Oats (T)	Bran (T)
"Artificial TDN" (T)	2,000	.80	.80	.70	.70
"Artificial protein" (T)	2,000	.44	.09	.12	.16
"Artificial weight" (T)	2,000	1.0	1.0	1.0	1.0
Cost	($/T)	90	50	55	50
Displacement value	($/T)	4,480	3,760	3,640	3,720
Displacement value less cost	($/T)	4,390	3,730	3,585	3,670

*See accompanying text for explanation of "artificial" ingredients.

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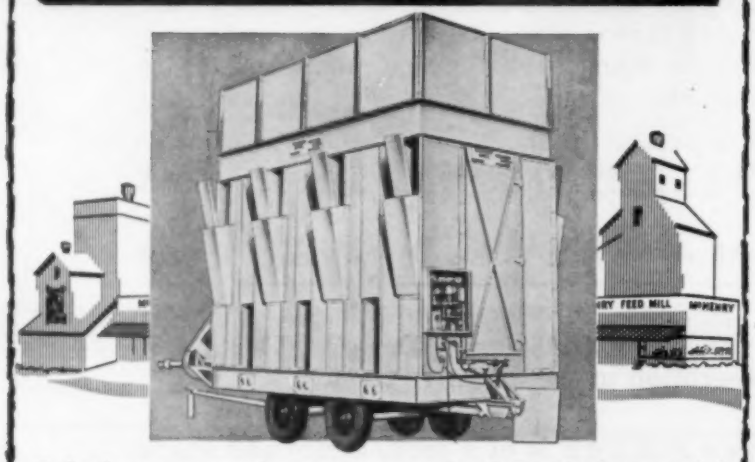

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TABLE 2. Substitution Coefficient for Ingredients Considered in Illustrative Problem With Ingredient Costs, Displacement Value and Displacement Value Net of Cost Where the Ingredients Displaced Are "Artificial TDN," "Artificial Protein," and SOM*

Item displaced	Cost of item displaced ($)	——Substitution coefficients for—— Corn (T)	Oats (T)	Bran (T)
"Artificial TDN" (T)	2,000	.64	.48	.41
SOM (T)	90	.20	.27	.36
"Artificial weight" (T)	2,000	.80	.73	.64
Cost	($/T)	50.00	55.00	50.00
Displacement value	($/T)	2898.30	2444.30	1732.40
Displacement value less cost	($/T)	2848.30	2389.30	1682.40

*See accompanying text for explanation of "artificial" ingredient.

protein." SOM was able to displace .44 T. of "artificial protein" per ton. Corn was able to displace only .09 T. of "artificial protein" per ton. Thus, with respect to its ability to displace "artificial protein," one unit of corn can substitute for .09/.44, or .20, ton of SOM. However, this is far from the whole story. Corn is able to displace .80 T. of TDN per ton (see Table 1); but, if by adding a unit of corn we reduce SOM by .20 unit, we will lose the TDN previously contributed by SOM. Thus, we would need to increase the use of "artificial TDN" by the amount equal to that previously contributed by the displaced SOM. That is, we will need to increase "artificial TDN" at the rate of .80 T. for each ton of SOM displaced.

Thus, if we are considering adding a ton of corn, we will need to increase "artificial TDN" by (.20 × .80), or .16 T. (note that both corn and SOM have 1.600 lb. TDN per ton). This will offset, in part, the displacement of "artificial TDN" by corn. The net difference is .80-.16 or .64. Thus, if corn is substituted into a mix made up of SOM, "artificial TDN" and "artificial weight," SOM may be displaced at the rate of .20 ton per ton of corn added, and "artificial TDN" may be displaced at the rate of .64 T. per ton of corn added. Protein level of the mix will be unchanged as corn is substituted for the other ingredients. What about "artificial weight"? It must be adjusted in the same manner as was the "artificial TDN." Corn will displace 1.0 T. of "artificial weight" per ton in a mix consisting of "artificial weight," "artificial TDN" and "artificial protein." But, in a mix consisting of "artificial weight," "artificial TDN" and SOM, it will displace 1.00 less .20 ton or .80 T.

The substitution coefficients for corn, as derived above, and for oats and bran, following a comparable procedure, are recorded in Table 2. Also given in Table 2 are the calculations necessary to establish the value of each of these ingredients assuming they were to be added to a feed formula which included "artificial TDN," "artificial protein" and SOM. You will note that the value of each is much lower than it was in Table 1, when the ingredients displaced were all "artificial." The difference is due to the fact that we are, in Table 2, displacing some SOM, a real ingredient not too much greater in cost than these ingredients.

There is bound to be a reader who is worried at this point because we didn't explain why we chose to develop the substitution coefficients in terms of the ability to displace "artificial protein." We could just as logically have said that "corn" is the equivalent of "SOM" in displacing "artificial TDN" and reasoned from there to an entirely different set of substitution coefficients. However, the set that might have been developed starting with "artificial TDN" may have required a reduction in "artificial protein." This would have been too bad since we have no more "artificial protein" to displace. So, to generalize in developing a new set of substitution coefficients, we start by considering the substitution rate between the ingredient that has just been added to the mix and each other ingredient considered in terms of the ingredient that was displaced completely by the ingredient added. This sounds complicated but isn't. It says if we displaced all the artificial protein with SOM, then we will start, as we did above, by finding out how the other ingredients substitute for SOM in displacing artificial protein and so on.

The information given in Table 2 enables us to determine which ingredient to add to our mix next. It is "corn," since corn has the greatest displacement value of the three ingredients here considered. Table 2 also gives us part of the information we need to develop a new mix. It gives us the substitution coefficients for "corn." We will need in addition the composition of the last formula we developed to determine how much "corn" we can add.

Our last solution had .46 ton of artificial TDN. Since each ton of corn added to the mix will reduce "artificial TDN" .64 ton (Table 2), this would permit .46/.64 ton, or .72 ton, of corn to be added. The last solution had 64 ton of "artificial weight." Each ton of "corn" added to the mix would displace .80 ton of "artificial weight," Table 2. Thus, .80 ton of "corn" could be added before we would run out of "artificial weight." Since this is greater than the .72 ton that could be added before all the "artificial TDN" was displaced, we know at this point that we will not be able to displace all the "artificial weight" by adding "corn."

Each ton of "corn" added will reduce SOM by .20 ton (Table 2) and we have .36 ton in the previous mix. Thus, not all of the SOM will be displaced. This means that "corn" will be limited to .72 ton in the mix we are in the process of developing. This is the maximum level permitted by the "artificial TDN" remaining in the mix.

We need now to scale the substitution coefficients given in Table 2 for a ton of corn to .72 ton of corn. After scaling, the coefficients are:

.46 ton of "artificial TDN";
.14 ton of "SOM";
.58 ton of "artificial weight."

These are the amounts we must subtract from our previous solution to permit the addition of .72 ton of "corn." After we have added the "corn" and made the subtractions indicated above, we have:

0 "artificial protein";
0 "artificial TDN";
.06 T. "artificial weight";
.22 T. SOM;
.72 T. Corn.

This is, of course, our new mix. Its cost is (.06 × $2,000) + (.22 × $90) + (.72 × $50), or $175.80 per ton, which is more than $2,000 under the cost of the previous mix, albeit nothing to write home about.

Coefficients for "Oats" and "Bran"

The next step is that of developing substitution coefficients for "oats" and "bran," the remaining two unused ingredients, in terms of "artificial weight," "corn" and "SOM." Exactly the same principles are used here as were used in developing the Table 2 values. Referring back to Table 2, we see that "oats" is capable of displacing .48 ton of "artificial TDN," whereas, "corn" could displace .64 ton. Thus, with respect to "artificial TDN" we can say that "oats" is equivalent to .48/.64, or .75 ton of "corn." However, if we were to add "oats" and reduce "corn" in this ratio, we would have to take into account the change in the displacement coefficients for "oats" with respect to "SOM" and "artificial weight." That is, if we were to reduce "corn" by .75 ton, we would have to increase "SOM" by (.75 × .20), or .15 ton. The .20 is the substitution coefficient for "corn" with respect to "SOM," Table 2. Thus, the displacement coefficient for "oats" with respect to "SOM" of .27 in Table 2 is not correct if we are contemplating displacing "corn." Each ton of "oats" would displace only .27 less .15, or .12, ton of "SOM" in such a case. Similarly, for "artificial weight," our Table 2 substitution coefficient must now be adjusted to reflect the reduction in level of use of "corn" as we add "oats" to the mix. This adjustment will be a reduction by .75 (the rate of reduction in "corn") multiplied by .80 (the "corn" substitution coefficient for "SOM"). This product is .60. Thus, the new substitution coefficient of "oats" for artificial weight is .73 (Table 2) less .60, or .13.

To summarize for "oats," if we add "oats" to a mixture containing "artificial weight," "SOM" and "corn," we will reduce the level of these ingredients by the following amounts per ton of "oats" added:

.12 ton "SOM";
.75 ton "corn";
.13 ton "artificial weight."

We have recorded this information in the "oats" column of Table 3.

We have gone through a similar series of steps to adjust the substitution coefficients given for "bran" in Table 2 and have also recorded these values in Table 3. The calculations of displacement values for "oats" and for "bran" when "SOM," "corn" and "artificial weight" are being displaced were also made and are reported in Table 3. Note that these displacement values are much less than the values given for these ingredients in either Tables 1 or 2. This is evidence we are approaching the least-cost solution. Since the displacement value less cost is greater for "bran" than for "oats," this is evidence that we can reduce the cost of the latest mix by a greater amount by adding "bran" than by adding "oats." This is not certain evidence but is a helpful guide.

So we face the problem of modi-

(Continued on page 34)

TABLE 3. Substitution Coefficients for Ingredients Considered in Illustrative Problem With Ingredient Costs, Displacement Value and Displacement Value Net of Cost Where the Ingredients Displaced Are "Artificial Weight," SOM and Corn*

Item displaced	Cost of item displaced ($)	—Substitution— coefficients for Oats (T)	Bran (T)
Corn (T)	55	.75	.64
SOM (T)	90	.12	.23
Artificial weight (T)	2000	.13	.13
Cost	($/T)	55.00	50.00
Displacement value	($/T)	312.05	315.90
Displacement value less cost	($/T)	257.05	265.90

*See accompanying text for explanation of artificial ingredients.

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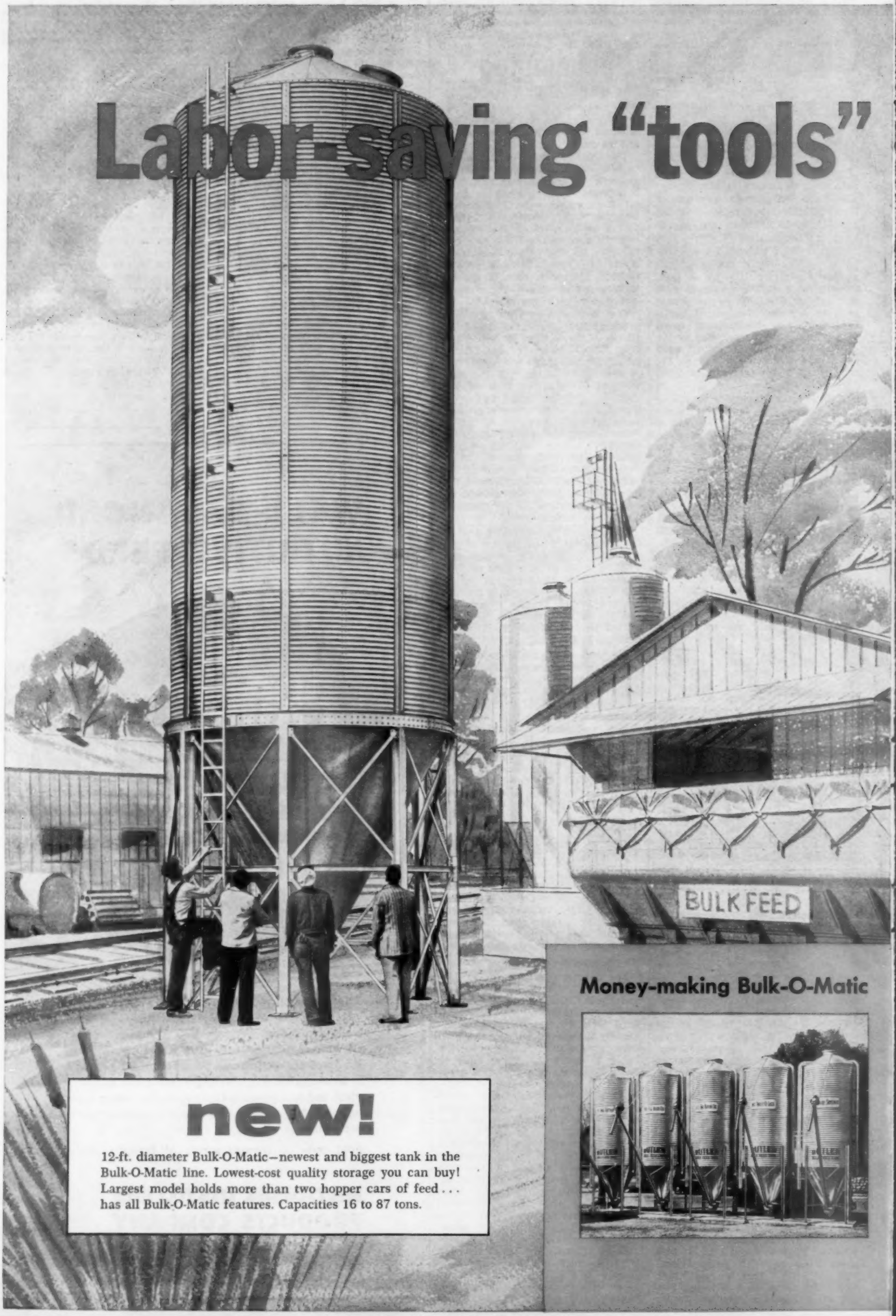

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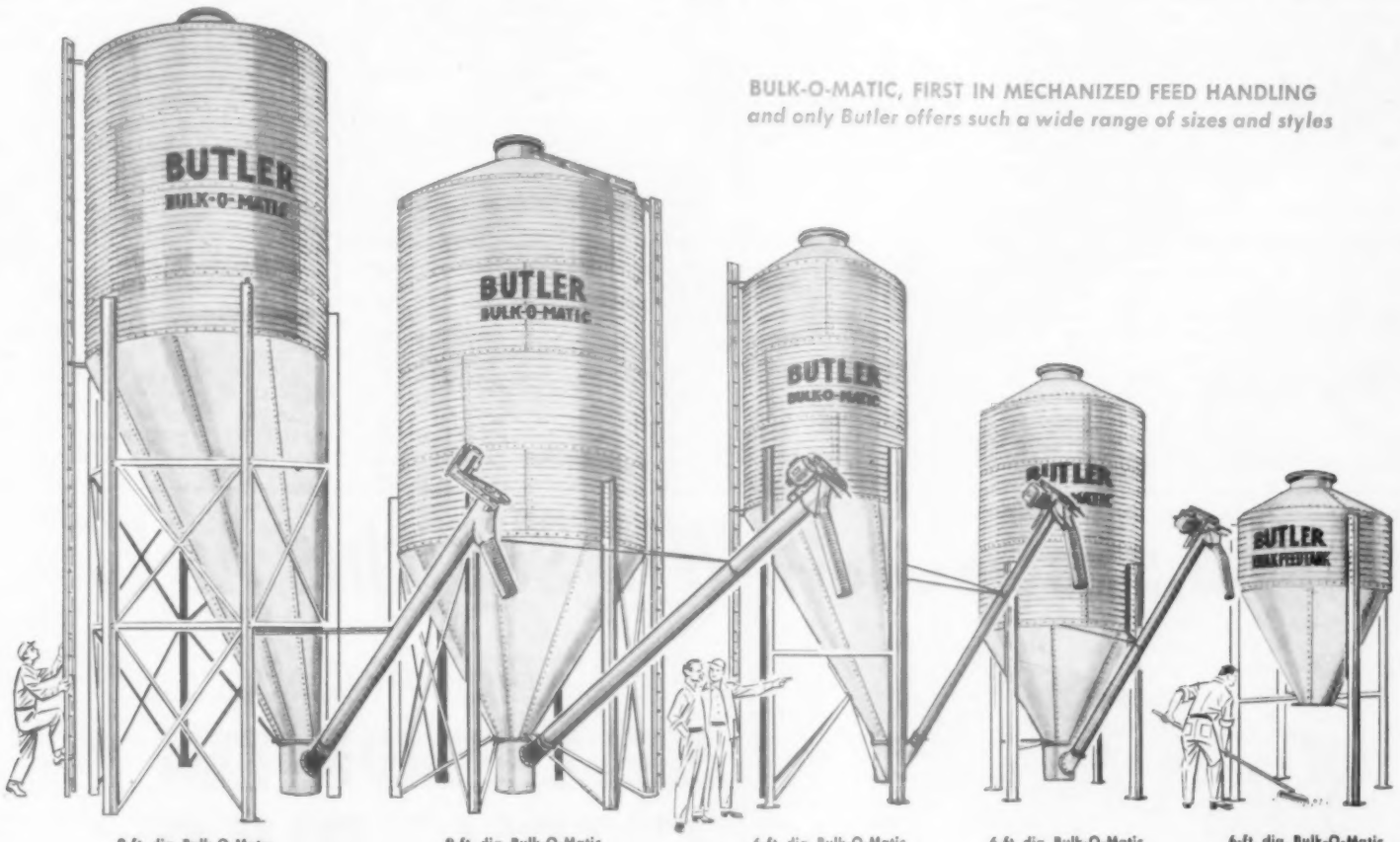

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fying our previous solution by adding as much "bran" as possible using the substitution coefficients of Table 3. By comparing the substitution coefficients with the previous mix, we can see that "artificial weight" is going to limit the amount of "bran" we can add. All the "artificial weight" will be displaced before half a ton of "bran" is added. There is enough SOM in our previous mix to permit nearly a ton of "bran" to be added and enough "corn" to permit over a ton of "bran" to be added. It follows then that our next mix will be one in which "bran" displaces the "artificial weight" in our previous solution.

By dividing .06, the amount of artificial weight in our previous mix by .13, the substitution coefficient between "bran" and "artificial weight" (Table 3), we obtain the amount of "bran" we can add to the mix. This is .46 ton. Now, we can scale the substitution coefficients for a ton of "bran" as given in Table 3 to .46 ton to obtain the reductions in "SOM," "corn" and "artificial weight" that will be necessary to permit us to add .46 ton of "bran." The scaled values are:

.29 ton "corn";
.11 ton "SOM";
.06 ton "artificial weight."

After we have made the indicated changes in our previous mix, we obtain our new mix. It is:

0 "artificial protein";
0 "artificial TDN";
0 "artificial weight";
.11 ton "SOM";
.43 ton "corn";
.46 ton "bran."

Can Do Better

This would cost $56 55 at the prices used. This isn't a bad cost, but can we do better? We shall answer this in two phases to better display the logic. Can we further lower mix cost by adding any other ingredient? Since "oats" is our only other ingredient, this question centers upon whether we can reduce cost by adding "oats." We could guess that we wouldn't from the previous analysis, but to be certain we must develop the substitution coefficients for "oats" in terms of "corn," "SOM" and "bran." Since we are experienced at this by now, it won't take us long. We see from Table 3 that "oats" is the equal of "bran" in displacing "artificial weight." So with respect to this characteristic, we can establish the substitution coefficient of "oats" for "bran." But, if "bran" is reduced 1 ton, SOM must be increased .23 ton and corn must be increased .64 ton, Table 3. Therefore, we must adjust the Table 3 substitution coefficients for "oats" with respect to "SOM" and "corn" to reflect these necessary conditions. So we subtract from the .12, the "oats" coefficient for "SOM" in Table 3, .23 to obtain —.11 ton as the "oats" substitution coefficient for "SOM" in a mix consisting of "corn," "SOM" and "bran." Similarly, we subtract .64 ton from .75 ton to obtain .11 as the "oats" substitution coefficient for "corn" in this mix. (Don't let the negative substitution coefficient for "SOM" bother you. It merely means that, if "oats" is increased, SOM must be increased also.) These substitution coefficients have been recorded in Table 4. The displacement value less cost has also been computed and recorded there. This time the displacement value less cost is negative. This means that if "oats" is added to our previous mix, the mix cost will be increased. Therefore, we may conclude that our previous mix could not be reduced in cost by adding any other ingredient (among those considered).

Note in passing, that should "oats" be reduced in price by $9.50 per ton, we would add "oats" to our mix. Everything we have done so far is related to the price of the ingredients. Fortunately, as prices change, we can start where we are and do not have to repeat all the previous analysis.

Least Cost?

We are now in a position to consider the other phase of the question, "Have we the least-cost mix?" The mix we have exactly meets the minimum level for TDN, for protein and weights exactly a ton. According to our specifications, it is not necessary that our mix exactly meet the minimum specification for TDN and protein. Thus, to answer the second phase of the cost question, we need to consider whether we can increase either or both TDN and protein and lower mix cost.

TABLE 4. Substitution Coefficient for Oats In Illustrative Problem With Cost, Displacement Value and Displacement Value Net of Cost Where the Ingredients Displaced Are SOM, Corn and Bran

Item displaced	Cost of item displaced	Substitution coefficients for oats
Corn (T)	50	.11
SOM (T)	90	—.11
Bran (T)	50	1.0
Cost of oats	($/T)	55.00
Displacement value for oats	($/T)	45.60
Displacement value for oats less cost		—9.40

The information given in Tables 1 through 4 is not adequate to permit us to answer this question. Thus, we must retrace part of our previous reasoning to develop new information. We didn't develop the whole argument at one time in the hope that you could swallow two small pills easier than one large one.

We must return to our former imaginative frame of mind and imagine an "ingredient" that weighs nothing, has no TDN, and which uses up protein. We also need to conjure up an "ingredient" that weighs nothing, has no protein, and which uses up TDN. We don't need to worry about the comparable "ingredient" to use up weight since it isn't reasonable to mix a ton of feed that weighs less than 2,000 lb. Let us call these two new "ingredients" "not protein" and "not TDN." (In linear programming jargon these are called "disposal processes.") We can add them to the list of ingredients we considered in the foregoing problem. They would be costless, or perhaps of negative cost if you value exceeding the minimum levels specified. Then, if putting either of them into the mix will lower cost, this in-

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THE SUNSHINE FEED FOR CATTLE
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THE SUNSHINE FEED FOR CATTLE

dicates that exceeding the minimum on the specification represented by this "ingredient" is cost reducing.

These "ingredients" can be entered in our tables for substitution coefficients (i.e., Tables 1 through 4) in just the same way as were the real ingredients. For example, in Table 1 the "not-protein" and "not-TDN" ingredients would have had the following values:

	"Not-Protein" (T)	"Not-TDN" (T)
"Artificial TDN" (T)	0	—1
"Artificial protein" (T)	—1	0
"Artificial weight" (T)	0	0
Cost ($/T)	0	0
Displacement value ($/T)	—2,000	—2,000
Displacement value less cost ($/T)	—2,000	—2,000

We could have carried them along and treated them exactly as we treated the real ingredients. We won't bother to trace through all the steps of changing the substitution coefficients as the mix changes but will present only the values for these "ingredients" as they would appear in our Table 4 above. These are:

	"Not-Protein"	"Not-TDN"
"Corn" (T)	—2.07	7.72
"SOM" (T)	—4.05	1.90
"Bran" (T)	6.12	—9.62
Cost ($/T)	0	0
Displacement value ($/T)	—162.00	76.00
Displacement value less cost ($/T)	—162.00	76.00

Since "not-protein" requires an increase (note the negative sign on the substitution coefficients) in "SOM" and "corn" that just balances in weight the reduction in "bran," it is easy to see why its displacement value less cost will be negative. In other words, we do not want to add this "ingredient" to our mix.

With "not-TDN," however, it is another story. We will reduce "SOM" and "corn" while increasing "bran." We can save money by making these changes; thus, we will want to add some of this "ingredient" to our mix. You should now be able to go through the steps necessary to develop the new formula. We will give you a hint; you will wind up with the mix being 100% "bran"—a fact you probably arrived at when we initially specified the problem and the ingredients. Don't be discouraged that we have gone around Robin Hood's barn to arrive at what we could determine at a glance. The principles we have established are good in solving problems so complex you could never hope to solve them precisely in any other way. We'll demonstrate some of these later.

Reduced to Routine

Now, you know all you need to know to solve problems of your own. The way we have described the "Simplex" solution routine makes it appear very cumbersome. However, it has been reduced to a step-by-step mechanical routine that most any clerk can follow to obtain solutions. And, of course, electronic computers can be told how to do the arithmetic and even make the choices involved. The instructions for the clerk and for the various kinds of computers can be obtained from previously published reports.

Since you are now prepared for it, in the next article of this series we shall discuss a realistic problem that will develop some new ideas on practical application of what you have learned here. It will concern one of the more complicated mix problems—that of a broiler feed.

v v

REFERENCES AND NOTES

(1) The "Simplex" procedure is that developed by Dantzig and published in the Cowles Commission Monograph No. 13 which was referred to in the previous article. Basically it is a procedure for solving simultaneous equations; but, it gives a value weighted solution and one that contains non-negative values for all the variables.

PROFITABLE IDEAS
FOR DEALERS IN THE CASH REGISTER

Institute of Cooperation Will Meet in Illinois

URBANA, ILL.—The University of Illinois will serve as host for the 1959 annual meeting of the American Institute of Cooperation.

Announcement of the 1959 meeting site was made at this year's meeting at Pennsylvania State University, according to Dr. G. L. Jordan, Illinois department of agricultural economics, who will serve as chairman of the steering committee for next year. Dates will be Aug. 16-19.

More than 4,000 are expected to attend next year's meeting. The group will include officers, directors and leaders of all types of farmer cooperatives, 4-H and FFA members, college staff members and government officials.

Join Board of Trade

MEMPHIS—Three firms are new members of the Memphis Board of Trade, it was announced by Arthur A. Williams, executive vice president. They are Stallings Bros. Feed Mills, Morrilton, Ark., repesented by Alan Stallings; Essex (Mo.) Grain Co., represented by Harold Lumsden, and Missouri Soybean Co., Caruthersville, Mo., represented by Iverson Michie.

NEW LEADER Model L-14S
LIME SPREADER

is a high quality rig with a low price tag!

Cut your in-the-field costs with this simple to operate, easy to maintain spreader. Merely set the feedgate opening, start the truck, engage the PTO and start spreading! Material is delivered to the twin spinners over a wide 24" conveyor. Also available with a center dump for stock piling and windrowing.

NEW LEADER *Engine-driven* Spreaders: Model L-52S with 24" conveyor is built for widespread use. Model L-62S with a 30" conveyor is for extra heavy, widespread lime applications. Both spreaders can also be used for fertilizer.

Accurately Blends and Spreads Three Fertilizers At The Same Time!

Now, offer mixed analyses at low, bulk rates!

Three separate feedgates, each with a test box for accurate metering, control the amount of spread. The driver can change the fertilizer ratio for varying soil conditions while in the field! Now, you can spread 3 kinds of fertilizer in one pass through the field . . . whereas, before it took 3 separate trips to do the job! A 7 h.p. gasoline engine drives the twin spinners at a constant rate, regardless of truck speed. The 36" belt-over-chain conveyor is powered from a drive-shaft drive synchronized to truck speed . . . for precise per-acre requirements. Optional equipment meters herbicides and insecticides into the fertilizer . . . spreads all three at once.

A *Powered Flow-Divider* assures even distribution of materials to both spinners, regardless of the position of the L-42S on hillsides or level ground. Customers appreciate this feature as it results in an even crop growth throughout the field.

Model L-19S Combination Spreader With PTO Drive, 24" Conveyor and Twin Spinners Delivers Fast, Uniform Spreads!

Simple operation saves time and upkeep. Just set the feedgate opening . . . start the truck engine . . . engine the PTO . . . start spreading! The body has 45° angle sides to prevent bridging—heavily reinforced to stop warp and twist—extended 6" higher to hold bigger payloads with less blowing.

NEW LEADER *Engine-driven* Combination Spreaders are also available: Model L-22S with a 7.0 h.p. engine and Model L-32S with a 12.5 h.p. engine to deliver plenty of power for heavy applications of lime or fertilizer.

Ask Your Nearest NEW LEADER *Distributor for a Demonstration!*

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COLO., Denver—Madron Mfg. Co.
DEL., Harrington—Bohr Spreader Service, Inc.
FLA., Lakeland—Henry W. Conibear
GA., Atlanta—Brooker Truck Equip. Co.
ILL., Peoria—Truck Equip. Co.
Rockford—D. H. Thomas & Son, Inc.
IND., Elkhart—Emmert Trailer Corp.
Indianapolis—South Side Equip. Co.
Tell City—Mulzer Bros.
IOWA, Cedar Rapids—Wendler-Kraus Equip.
Sheldon—Snyder-Meylor Co.
Omaha, (NEBR.)—Badger Body Mfg. Co.
KANS., Wichita—Perfection Truck Equip.
MICH., Saginaw—Goes Seed & Equip. Co.
MISS., Jackson—A. P. Lindsey, Distributor
MO., Robertson—Koste Machinery Co., Inc.
Kansas City—Perfection Spring & Equip.
NEB., Lincoln—Agrifirst Chemical Co.
NEV., Lovelock—Lovelock Welding
N. Y., North Collins—Schmitz Sales & Serv.
New York City, Poughkeepsie and Westbury, L. I.—H. O. Penn Mach. Co.
N. C., Raleigh—O. H. Stanard
OHIO, Columbus—Schodorf Truck Body & Equip.
Damascus—D. L. Phillips
Orrville—Orran Hofstetter
Toledo—Riedy-Manner Truck Equip. Corp.
PA., Annville—Annville Body Co.
Waynesburg—Ira D. Haines
TENN., Donelson—Tennessee Dist. Co.
UTAH, Murray—Oscar Bennion
W. VA., Buckhannon—Farmers' Truck & Impl. Co.
WIS., Rice Lake—Ostrom-Johnson Co.
Sun Prairie—Brooks Industrial Sales
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Ontario, Ottawa and Toronto—General Supply Co., of Canada
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70% corn distillers solubles
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It goes on every week — like the production and availability of Solulac! That's why those who formulate feeds with Solulac always are confident of a *continuous* supply. Now is a good time for you to start with Solulac, to make use of its high nutritional values, its unidentified growth factors and vitamins. Guaranteed to be free flowing. Available in 50 and 100 pound bags or bulk carloads. Write, wire or phone. Grain Processing Corporation is also a *continuous* source of corn distillers dried grains.

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Riboflavin — Vitamin B-12 — Bacitracin — GP-101, source of whey and other unidentified growth factors.

Weighing Program, Efficient Operation Win Customers

Wisconsin custom milling firm backs up good on-the-farm service with efficient grinding, mixing at mill. Volume doubles

By Al P. Nelson
Feedstuffs Special Writer

When a farmer-customer of Clifton & Kieslech Co., Cobb, Wis., custom milling firm, comes up with a new idea in livestock raising or farming methods, he's likely to have visitors before very long.

More often than not, those visitors would be either Clay Clifton or Paul Kieslech, owners of the feed plant with a group of 4-H or FFA members or just interested farmers who want to see how the new system works.

The owners are quick to learn of these innovations, too, for they have a great deal of direct contact with their customers. Much of this contact comes as a result of a weighing program the firm uses to keep records of gains in customers' livestock. A Ranger hog and cattle scale is used, and the firm goes out once a month to weigh animals in the area.

"The farmer hasn't got the patience to weigh once a month to check gains," Mr. Clifton said, "but we have, and the figures tell the story. We get a lot of extra business through this weighing program, since one farmer usually tells another about the gains. The program is one sure way to get a welcome reception when you call at a farm."

He said that the firm also has live calf and chicken displays around the mill many months of the year.

Exhibits Pay

"Nothing advertises your feed so well as a healthy animal or fowl," he said. "Farmers are always interested in exhibits like these and they will talk about them and inquire about the feed being used."

The owners are agreed, however, that after the farmer comes to them they must in turn provide him with fast, efficient service. New mixing and grinding equipment installed more than a year ago has taken care of that requirement, they said.

They have installed a light touch, too, in the heading on a big bulletin board in the drive-in at the mill. It is called "Sputnik Bulletin Board," a heading that attracts attention to the

(Continued on page 40)

SUCCESSFUL CUSTOM MILLING FIRM—Clifton & Kieslech Co., Cobb, Wis., feed firm, is seen from the back of its building in this photo. At left is the new warehouse installed by the firm when it installed new equipment to speed up its mixing and grinding capacity. The firm offers good on-the-farm service as well as good service at the mill.

MEASURING OFF—One of the five employees of Clifton & Kieslech Co. is shown measuring off concentrate from the bulk bins. The bins were added at the time new grinding and mixing equipment was installed more than a year ago.

Use Your Own Salt and Calcium with Herman Nagel's Formula B
PHOSPHORUS CONCENTRATE with TRACE MINERALS
...to Supply Every Needed Mineral
in a form so soluble "it melts on your tongue."
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CUT BULK DELIVERY COSTS 25%
with DORSEY Bulkmaster

Bulky Broadbottom says...
"The bigger bottom means higher capacity and lower center of gravity."

The 390 cubic foot capacity of a 10-foot long BULKMASTER is 30% greater than lower-priced bodies. From a profit standpoint, this means— 3 BULKMASTERS can deliver as much feed per day as 4 screw-conveyor units. This represents a saving of 25% on labor, truck fuel and maintenance! And the same capacity ratio applies whether you operate one unit or a fleet.

To step up profits, step up to DORSEY BULKMASTERS!

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Please send literature on the Dorsey BULKMASTER line as follows:
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Other deluxe Bulkmaster features...

AUGER UNLOADING (as illustrated)
- 36-inch-wide belt-over-chain conveyor—can't slip and automatically maintains alignment (also standard on air models)
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- Completely hydraulic system—has four motors so speed of belt and augers can be regulated
- Safer Unloading—conveyor or augers automatically stop if foreign matter obstructs system
- Sliding Hatch Covers with foam rubber seals

AIR UNLOADING MODELS
- Medium Pressure Air System—guards against separation of ingredients and results in quieter operation
- 30" Rotary Air Lock Feeder is engineered for fast, efficient operation
- Controlled Unloading—clutches on conveyor and air lock feeder permit independent operation when pit dumping
- Hose Storage Compartment—is completely enclosed
- Sliding Hatch Covers with foam rubber seals

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How you can save money on vitamin A by buying on the basis of . . .

true cost of vitamin A sources

The list price of vitamin A delivered at your receiving dock is not the true cost.

True vitamin A cost is a combination of this list price plus all the "hidden" charges you pay in formulating and storing feeds containing this vitamin.

The total cost of these hidden charges will depend on the type of vitamin A you use, types of feed you use it in, how it is processed, storage time and conditions, etc.

Hidden charges can hurt

A wide variety of Carr-Price ratios can obviously be used to illustrate the value of purity and true vitamin A content. However, a figure in the range of 1.2 is fairly common among vitamin A sources.

If we assume that a vitamin A source assayed by Carr-Price contained 10,000 units per gram while the U.S.P. assay was only 8,400 units, then we have a Carr-Price ratio of 1.20 corresponding to 20% impurities. On this basis, a feedman paying for $2 worth of vitamin A would really be getting only 80% or $1.60 worth!

Moreover, if the vitamin A source is not stable in the feed, the feeder will obviously not get full value either. If we assume a loss of 20% per month in a pelleted feed that is stored for two months, he will be getting only 60% of the original 8,400 units actually present, or only $.96 worth of vitamin A out of each $2.00 worth at time of feeding.

He would be getting even less if you subtract another 10%-20% for poor biological availability.

Stability of vitamin A sources varies greatly

Different sources of vitamin—fish liver oils, other vitamin A oils, products where the vitamin is absorbed on cereal carriers, or stabilized with wax, animal fat, or vegetable gum—vary greatly in their stability characteristics in different types of feeds and under various storage conditions.

Poor stability often makes it necessary to discount a high percentage of the vitamin A when formulating feeds. Costly overages must be included. These overages can add from 10% to 50% to your purchase price . . . even more under severe processing and storage conditions!

The superior stability of Pfizer Vitamin A Palmitate in Gelatin in all types of feed . . . under a wide range of conditions . . . helps to make it the lowest cost source of vitamin A when *true cost* is considered.

Poor biological availability another costly hidden charge

Fish liver oils, other vitamin A oils, products where the vitamin is absorbed on cereal carriers, or stabilized with wax, animal fat or vegetable gum vary greatly in their biological availability due to differences in composition, digestibility, and other characteristics of the carrier and to the physical state of the vitamin A. This variation has been well documented in published reports. Vitamin A that is not used by the bird or animal is of no value in your feeds.

Pfizer Vitamin A Palmitate in Gelatin's superior biological availability is another factor that helps make it the lowest cost source of vitamin A when *true cost* is considered—the cost of the vitamin A actually utilized by the bird or animal.

Questions

How much true vitamin A activity does your present source provide? Does the chemical Carr-Price assay match the U.S.P. XV value? Must the Carr-Price assay be discounted by 10% to 40% due to impurities present which exert no "A" activity? If your vitamin A source is not made by using pure "A", you probably are paying hidden costs for inactive impurities which are useless to the animal.

Answers

Ask you Pfizer representative to prove that Pfizer Vitamin A Palmitate in Gelatin is the lowest cost source of vitamin A when TRUE COST figures are used—the cost of the vitamin A put into your feed and actually *utilized* by the bird or animal.

Chas. Pfizer & Co., Inc.
Suppliers of antibiotics, vitamins, and other growth-promoting feed ingredients

Pfizer Vitamin A

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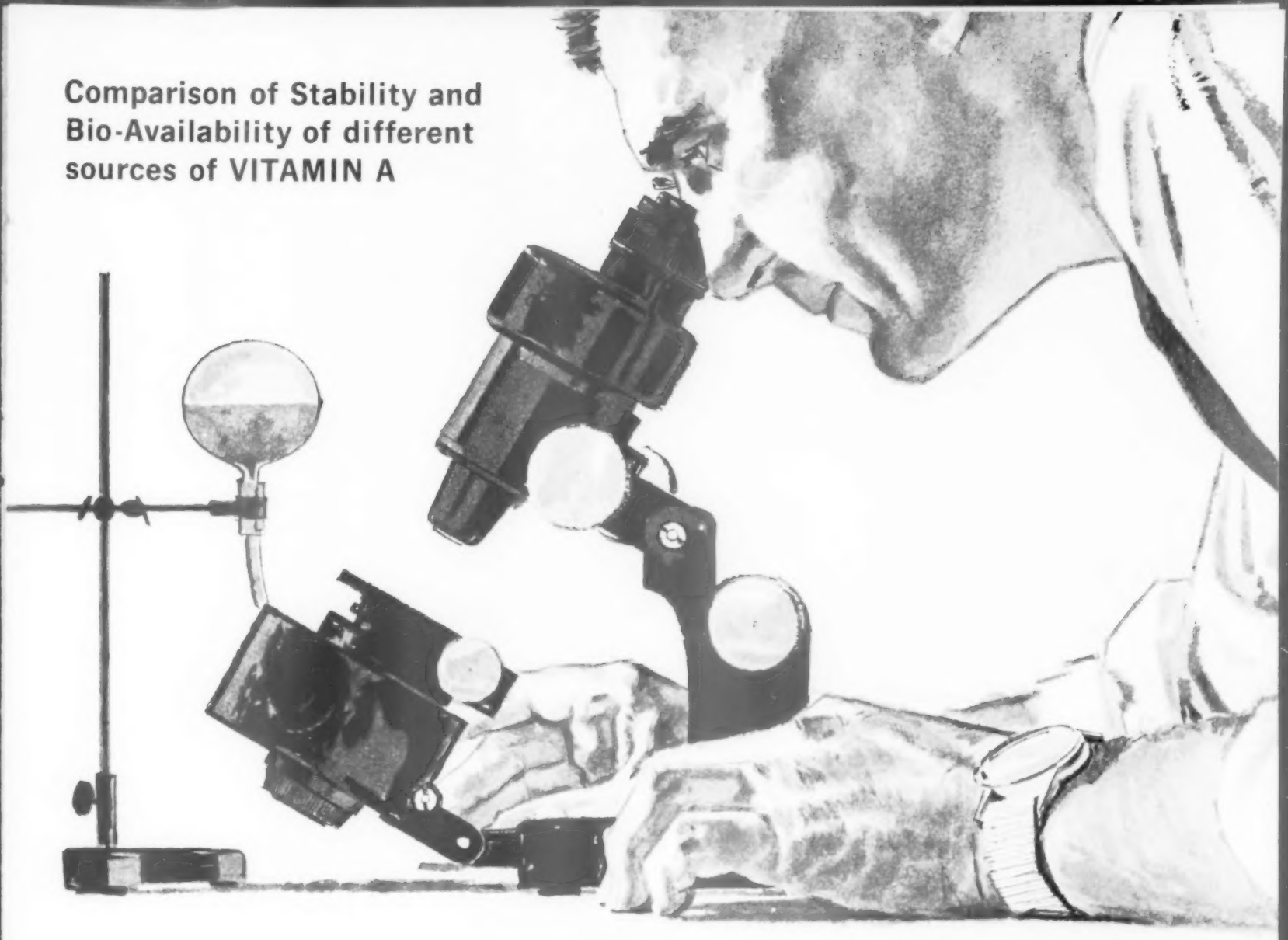
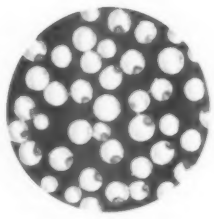
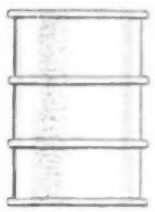
Comparison of Stability and Bio-Availability of different sources of VITAMIN A





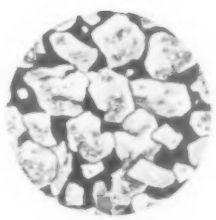
PFIZER VITAMIN A PALMITATE IN GELATIN

Excellent Stability—microscopic particles of vitamin A embedded in solid matrix of food grade gelatin provide protection against loss.
Full Availability—gelatin beadlets immediately release vitamin A in stomach for prompt absorption . . . no emulsification necessary.



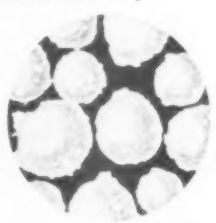
PALMITATE IN OIL

Stability—fair-to-poor in mixed and pelleted feeds, poor in mineral mixes.
Availability—similar to fish liver oil.



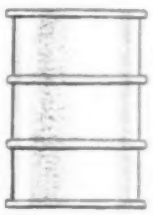
FISH LIVER OIL ON CEREAL CARRIER

Stability—poor in mineral mixes, fair-to-poor in mixed and pelleted feeds; supplement shelf losses relatively high.
Availability—absorption retarded because cereal carrier must be digested and absorbed oil emulsified prior to use by bird or animal.



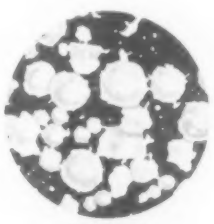
WAX PRODUCT

Stability—fair-to-good stability in high-moisture feeds, fair-to-poor in mineral mixes, fair-to-poor in pelleted feeds.
Availability—wax retards rate of absorption, animal must break down wax before utilizing, absorption usually takes place well along digestive tract.



FISH LIVER OIL

Stability—fair stability in mixed feeds, poor in mineral mixes, fair-to-poor in pelleted feeds; it may be necessary to discount ¼ to ½ when added to various feeds and even more under severe stability conditions commonly encountered.
Availability—depends upon impurities present and ration conditions.



ANIMAL FAT PRODUCT

Stability—fair stability in mixed feeds, fair-to-poor in pelleted feeds, poor in mineral mixes.
Availability—retarded because fat carrier must first be digested before vitamin A is released for absorption by bird or animal.

Only Pfizer's Vitamin A Palmitate in Gelatin gives you all these important advantages:

- Outstanding stability in pelleted feeds, mineral mixes, concentrates, high-moisture feeds.
- Greater bio-availability, unit for unit, than fish liver oils, other vitamin A oils, products where the vitamin is absorbed on cereal carriers or stabilized with wax, animal fat, or vegetable gum.
- Controlled-size, dry, free-flowing beadlets assure uniform distribution in feeds. No oil to heat, no spraying, no clogging.
- 99 + % pure vitamin A; no impurities to accelerate "A" loss or "inflate" assay: assay by USP and colorimetric method gives essentially same potency.

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The BEST Ingredients Make BETTER Feeds

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services or items the firm has for sale.

One farmer on viewing it, however, said: "Sputnik or no sputnik, I have to get my grain ground in a hurry and get back to my farm work."

Quick service is provided with new equipment which includes a Prater 1½-ton mixer and a 2-ton mixer and a Prater mill. Other equipment includes a Kewaunee truck hoist, a Plymouth hay chopper, a Zip sheller, Butler bulk bins and a Ranger scale, plus a conveyor.

Since the equipment was installed, the firm's volume has doubled and has brought into the customer fold a big poultry customer who takes six tons of ground and mixed feed, including his own grains, at a time. The owners said the new equipment has also been responsible for getting many additional customers because one farmer spreads word to another how the new machinery can do a better job faster.

Large Mixing Volume

"Eighty percent of the feed which we sell goes through our mill," says Mr. Clifton. "We can process a ton of feed in about 15 minutes, and farmers time us, too. But the farmers know with such a fast schedule they don't have to wait very long."

At the same time that the firm modernized its equipment, it also added a 30 by 60 ft. warehouse with two loading doors. While steel Butler bins outside hold a lot of concentrate and and feeds, the warehouse is needed for complete formula feeds, fertilizer and other farm supplies. The firm makes no feeds of its own brand. It handles Purina feeds and uses Purina concentrates. Both owners are thinking about mixing feed in bulk and storing it. Right now, if farmers want feed in trucks in bulk after mixing, the feed firm has a conveyor which handles feed from mixer to farm truck. Quite a bit of feed is hauled back to the farm by customers in this way, Mr. Clifton reports.

This is a typical small town feed mill to which farmers come to get their grain ground and mixed with concentrate and other ingredients. Mr. Clifton says his firm is in excellent competitive shape due to the new equipment and the extra warehouse space and the bulk bins.

"We have been in business for 10 years and we had gotten as far as we could in our business," says Mr. Clifton. "My partner and I realized that if we wanted bigger volume we'd have to modernize and so we took the step. We certainly aren't sorry. There now are five of us employed in the mill and we are kept busy all day long serving customers."

BULK BINS—These Butler bins are used for storage of concentrates by Clifton & Kieslech Co. The owners said they also are contemplating mixing feed in bulk and storing it.

Uses Hay Chopper

Rather than putting hay bundles directly into the grinder, the firm prefers to use a separate Plymouth hay chopper first. The bales of hay are separated by an employee on the drive. The hay, too, is tossed into a separate receiving chute which is boarded off, so as to prevent children and adults from falling into it.

The rate for chopping hay is 15¢ a bale. Grinding and mixing are charged at 15¢ cwt., and 15¢ is also the rate for shelling corn.

"If we charge the wages of two men to our grinding and mixing department, we figure that the department breaks even," states Mr. Clifton, "but, of course, our general business benefits from the increased traffic, too."

The plant also offers hours aimed at the busy farmer. The firm is open from 7 a.m. to 5 p.m. six days a week.

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Arkansas Feed Men Hear Talks on Timely Topics

By THOMAS E. LETCH
Feedstuffs Staff

FAYETTEVILLE, ARK. — Several topics of special current interest came in for discussion at the recent Formula Feed Conference at the University of Arkansas.

For example, feed men heard talks on such things as fats in feeds, new swine nutrition developments, use of amino acids, pelleting and enzymes in poultry feeding, and certain aspects of dairy and beef cattle feeding.

Following are summaries of some of the talks. (Other talks were reviewed in Feedstuffs of Sept. 27.)

FUTURE OF FAT IN ANIMAL FEEDS—Dr. G. Lynn Romoser, Monsanto Chemical Co., St. Louis: The feed industry will use approximately 380 million pounds of fats and oils this year.

In early experiments to increase the energy level of broiler and laying hen rations, marked improvements in feed conversion and slight improvements in growth rates of chicks were obtained, but there seemed to be an optimal level (10-15%) beyond which depressed growth rate and poor feathering were observed. Further work has shown that optimal results may be obtained with high levels of fat only if there is a corresponding increase in protein level (amino acids) with each incremental increase in energy.

We have been using control rations for growing broilers containing levels of added fat as high as 20%. These rations have been performing quite well even when used to produce broilers under semi-commercial conditions.

There seems to be a correlation between the saturated fatty acids found in a given fat and its feeding value.

Tallow and lard contain higher levels of the saturated fatty acids than either corn oil, cotton seed oil or soybean oil.

Although the addition of fat has been shown to increase the total lipid content of the carcass, data show that diets containing high levels (30%) can be fed without materially altering total lipid content of the carcass, provided that such rations are properly balanced with respect to amino acids and other nutrients.

In experiments with feeding a finishing ration containing high levels of fat (approximately 1065 Cals. P.E./lb.), both male and female broiler strain chickens grew more rapidly and utilized feed more efficiently than birds fed rations containing relatively low levels of fat. One series was fed rations formulated according to the conventional concepts wherein crude protein levels are markedly reduced during the finishing period in order to widen the C/P ratio. The other series was formulated according to the Monsanto "energy spurt" concept using iso-nitrogenous rations during both the starting and finishing periods. When the energy level of the finishing rations was increased by 100 Calories per pound, there was a significant improvement in both growth rate and feed conversion compared with the other series. This improvement was even greater than that observed when a high potency feed was fed throughout the experiment. Similar improvements yielding greater returns over feed costs per thousand broilers sold have also been obtained at the Monsanto Research Farm.

"Perhaps I'd better find you a lighter job."

In considering the value of fat in addition to the energy considerations, there are additional factors such as improved texture and palatability, greater bulk density, decreased wear on mixing machinery. Another fact of utmost importance is the extra space in the feed bag which is made available when high levels of fat are used. This permits the addition of important dietary essentials resulting in a high efficiency feed which will produce more meat at less cost.

In a recent test, finishing rations containing 2% and 10% added fat were compared. Rations with 2% added fat contained 24% and 20.5% crude protein during the starting and finishing periods, respectively. The high fat finisher contained approximately 24% crude protein. In one series no methionine hydroxy analog (MHA—trademark of Monsanto Chemical Co.) was added while in the other it was. In every instance greater returns were obtained with the rations formulated to contain 10% added fat. Moreover, returns were substantially increased by the addition of MHA to the rations at the level required.

Just how far one can go in adding fat depends upon a large number of factors. Market price is an important one.

(In this connection, Dr. Romoser reported that he had just learned of a practical broiler feeding test in which birds were fed 49% additional fat with the result that the birds were finished for 2¢ lb. less than on conventional rations. He did not go into details on the ration.)

CONDITION X IN BROILERS—Dr. Hardy Edwards, University of Georgia: This condition, sometimes called "water-belly" disease, was

(Continued on page 46)

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Lilly RESEARCH REPORT TO THE FEED INDUSTRY

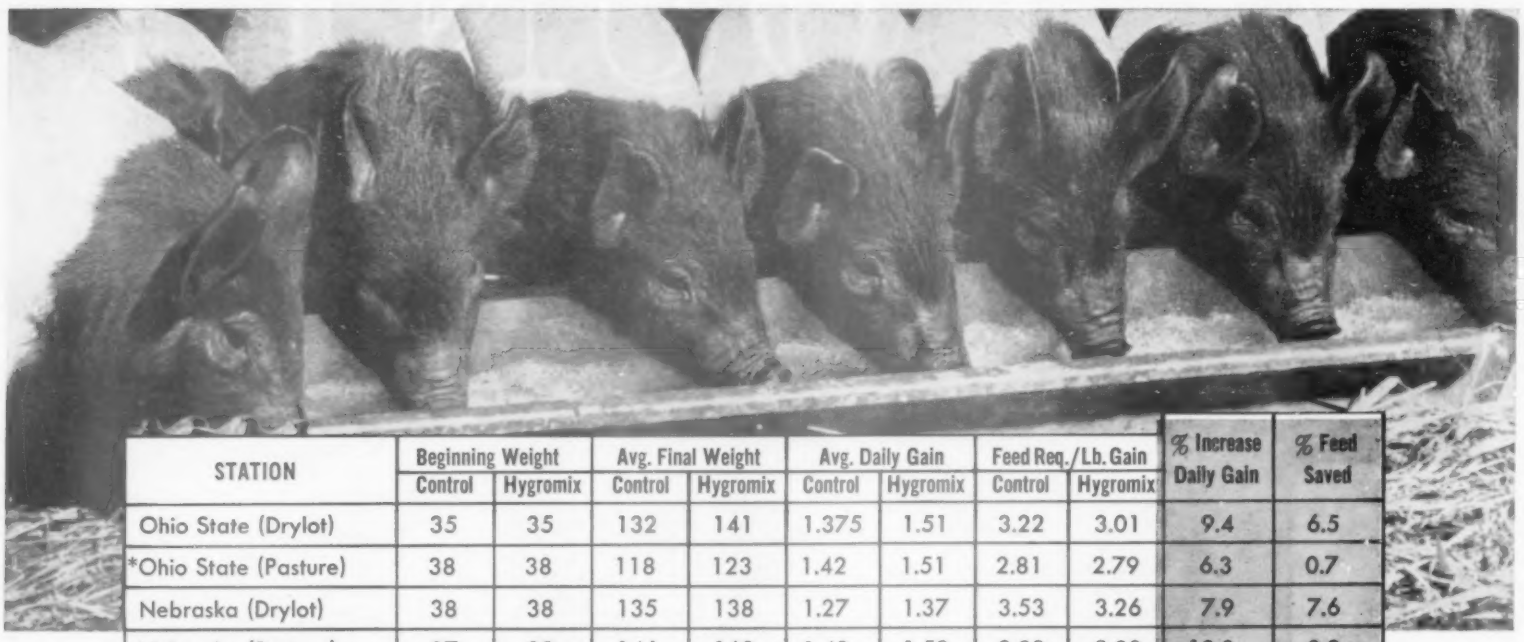
Eleven tests report results of continuous, in-feed worm control

These early feeding trials average 9.6% increase in daily gain on 7% less feed for hogs protected with 'Hygromix'-fortified feeds compared to controls.

Before feeds with 'Hygromix,' many experts agreed that internal parasites of swine cost the average hog raiser around 10% in lost gains and feed. Average figures in the eleven tests shown here agree closely with this estimate.

Under actual farm conditions the increase in gains and feed savings from 'Hygromix' worm control may be even greater. For instance, the three Lilly tests (see table) were conducted on the farms of practical hog raisers. Hog lots and pastures were fenced in half, and the hogs divided as equally as possible. With such typical conditions, 'Hygromix' worm control resulted in an average of 15.5% faster gains, and 9.2% savings in feeds.

Results like these are possible because 'Hygromix' in your feeds fights the swine worm problem full time. Continuous, *in-feed* control of large roundworms, nodular worms, and whipworms lets your customers erase the heavy, hidden losses due to these costly, tissue-damaging parasites. Most important, the extra gains and feed savings shown in these experiments demonstrate the important dividends your feeds with 'Hygromix' can offer.



STATION	Beginning Weight		Avg. Final Weight		Avg. Daily Gain		Feed Req./Lb. Gain		% Increase Daily Gain	% Feed Saved
	Control	Hygromix	Control	Hygromix	Control	Hygromix	Control	Hygromix		
Ohio State (Drylot)	35	35	132	141	1.375	1.51	3.22	3.01	9.4	6.5
*Ohio State (Pasture)	38	38	118	123	1.42	1.51	2.81	2.79	6.3	0.7
Nebraska (Drylot)	38	38	135	138	1.27	1.37	3.53	3.26	7.9	7.6
Nebraska (Pasture)	37	39	146	160	1.42	1.59	2.99	2.90	12.0	3.0
†Purdue (Progress Report)	37	37	88	94	1.22	1.36	3.40	3.22	11.4	5.3
South Dakota	45	45	101	106	1.43	1.61	2.99	2.74	12.6	8.4
No. Carolina (Concrete)	38	32	107	95	1.23	1.12	3.51	3.28	−8.9	6.6
No. Carolina (Pasture)	36	32	100	94	1.10	1.10	3.28	3.05	0.0	7.0
Lilly #V-5	40	41	140	161	1.33	1.59	4.21	3.24	19.5	23.0
Lilly #V-8	16	16	72	79	1.00	1.13	2.99	2.71	13.0	9.4
Lilly #V-14	26	26	82	90	1.00	1.14	3.42	3.58	14.0	−4.7
Averages	**35**	**34**	**111**	**116**	**1.25**	**1.37**	**3.30**	**3.07**	**9.6**	**7.0**

* In the Ohio State pasture test, a worm egg count was made after 53 days. The controls had 227 roundworm eggs and 41 nodular worm eggs per pig, per gram of manure. The 'Hygromix' group averaged less than one-half egg per gram of manure.

† At the end of the Purdue test, both non-'Hygromix' and 'Hygromix'-fed pigs were treated with an expellant-type wormer. The non-'Hygromix' pigs produced an average (per pig) of 14 adult, mature large roundworms. The 'Hygromix' pigs had none.

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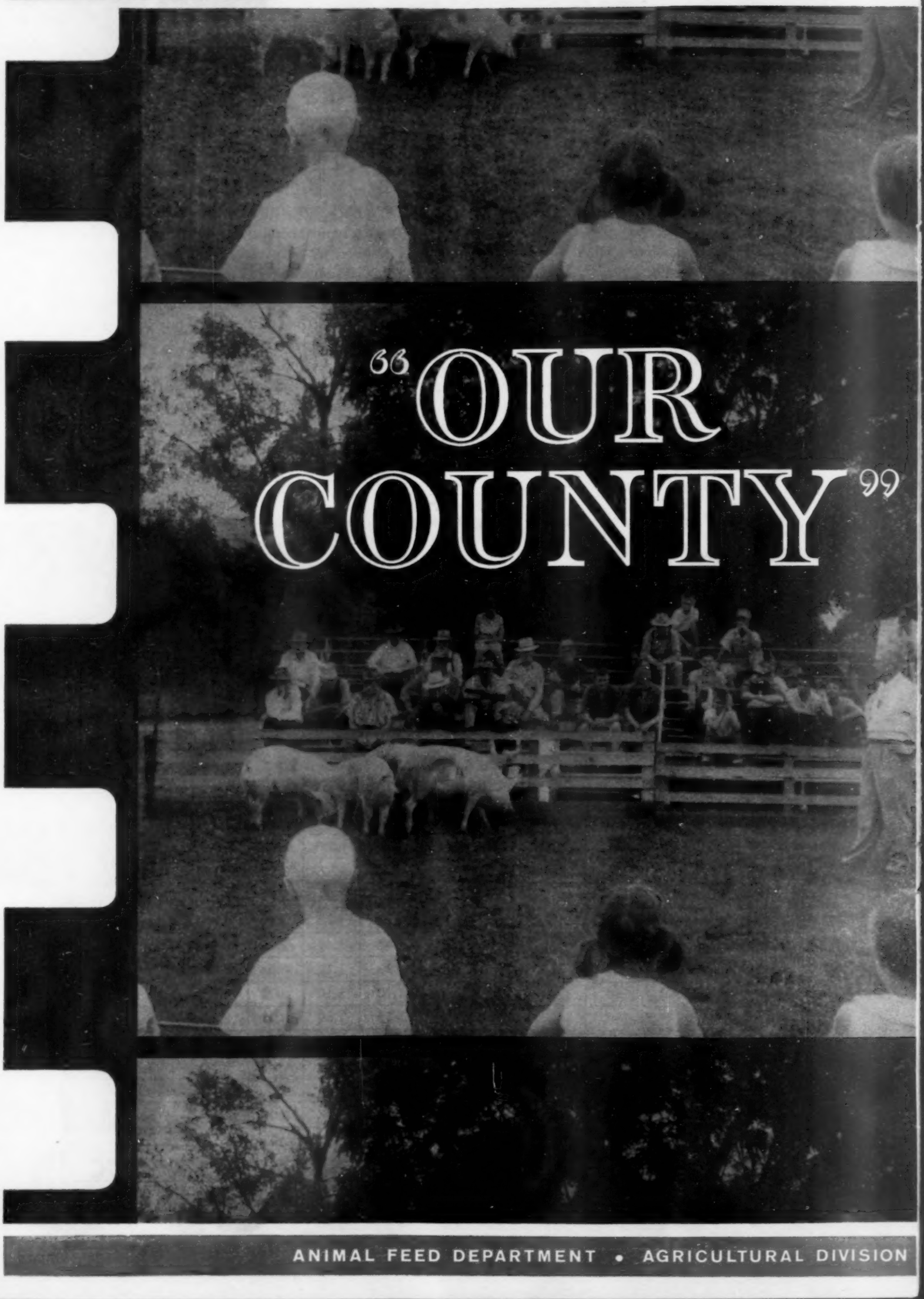

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identified in Georgia in March, 1957. The disease reappeared late in 1957 throughout the Southeast and Midwest.

It was found that the fat was the toxic ingredient in the feed. This fat had been obtained from one supplier who was using residue from a certain fat processor who was manufacturing pure fat chemicals, and it was believed by many that this by-product was the material that contained the toxic agent.

To date, no chemical test has been devised that can be used to point out a toxic fat.

Tests were conducted to find out what effect toxic fat would have when fed to laying hens. When fed at a 5% level, egg production dropped off and when the fat was removed from the ration high production was not reached again. The eggs from the hens fed the toxic fat had lower hatchability, but no increase in mortality was noted.

When the fat at 5% was fed growing pullets before they came into production, fewer eggs were laid and production was delayed several weeks. Mortality was increased some.

RECENT DEVELOPMENTS IN SWINE NUTRITION — Dr. Leo V. Curtin, McMillen Feed Mills, Decatur, Ind.: Some of the most important and newest developments are:

1. Silage for sows. Silage, when supplemented with 1 to 1.5 lb. of protein supplement per day and minerals, has resulted in from 25 to 34% reduction in feed costs, one to three more pigs per litter at farrowing, one to three more pigs per litter at weaning.

2. Confinement vs. pasture feeding. It is no longer necessary to have pastures for production of swine. Pigs fed in confinement gained 2½% faster than pigs on pasture. Pasture saved only 10 lb. feed per 100 lb. of gain. Land is more valuable than that. Sows can also be fed successfully in drylot during gestation.

3. Iron-Dextran injections. A single 2 cc. injection of iron-dextran solution is quite effective in preventing anemia. Second injections are recommended when pigs are not eating freely of a creep ration by the time they are three weeks old.

4. Mixed v. free-choice feeding of fattening hogs. Our work indicates that most of the benefit from a complete ration program occurs early in the feeding program, prior to the time hogs reach 100 lb. Two recent experiments showed 8% faster gains on the mixed ration. Beyond 100 lb. the beneficial effects when normal corn was fed were not consistently great enough to justify the added cost of grinding and mixing.

5. Pellets vs. meal. The pelleting of hog rations seems to have definite advantages—increased feed consumption due to increased density and greater palatability, and less feed wastage, not to mention ease of handling.

6. Hygromycin. Hygromycin B has been quite effective in controlling intestinal roundworms, nodular worms and whipworms when fed up to 80 to 100 lb.

7. Feeding for meat-type carcasses. Carcass quality appears to be affected more by breeding than feeding or management. On the other hand, once proper breeding is available, good feeding and management are necessary to bring out the good carcass quality that the animal is capable of producing. Factors reported to affect carcass quality include limited feeding, roughage, grains, pasture feeding, protein level and 3-nitro. There are disadvantages to all with the exception of the latter, where only a limited number of experiments have been published.

Only time will tell whether or not we will see pigs gaining 2 lb. per day from birth to market. As far as feed efficiency is concerned, it is not uncommon today to see reports of pigs requiring less than 300 lb. of feed per 100 lb. of gain from weaning to market.

ENERGY-PROTEIN RELATIONSHIPS IN SWINE RATIONS — Dr. P. R. Noland, University of Arkansas: Experiments have been conducted at Arkansas concerning quantitative and qualitative energy needs of growing and finishing swine. In one series, various feed grains were reevaluated as substitutes for 33, 59, 75 or 100% of the corn. The ground grains compared to corn were oats, milo, wheat, barley and brewers' rice.

As corn was replaced with the various grains, the rate of gain decreased, except in the case of brewers' rice. The decrease in gain from milo substitution was not large.

If the actual protein content of oats, barley, milo and wheat is considered in formulating swine rations, deficiencies of certain amino acids may exist in the resulting feed. Under these conditions less protein concentrate will be used and the overall protein quality of the ration may be subsequently reduced.

A significant improvement in rate of gain from additions of graded levels of fat to a swine fattening ration has been reported. There was no increase in back-fat thickness.

Recent tests indicate pigs can efficiently utilize rations from weaning to 200 lb. that contain appreciable amounts of fat. Further experiments will be needed to determine if the benefits in rate and efficiency of gain are sufficiently great to compensate for any undesirable effects imparted to the carcasses.

EFFECT OF ROUNDWORMS ON THE NUTRITION OF THE YOUNG PIG—Dr. Kendall W. Scott, University of Arkansas: Any situation where malnutrition and parasitism coexist results in a complex cycle which is deleterious to both the animal and the producer. The malnutrition increases parasitism and the parasitism increases malnutrition.

The pig acquires an "immunity" to roundworm as it ages, therefore the problem is largely one of young pigs. In addition, there is a resistance to ascarid infection brought about by adequate nutrition. Work at this station indicates that well fed pigs at 4-5 weeks of age are very resistant to artificial infection to roundworms.

For controlling the roundworm, sanitation is the best method. Use of anthelmintic drugs is another

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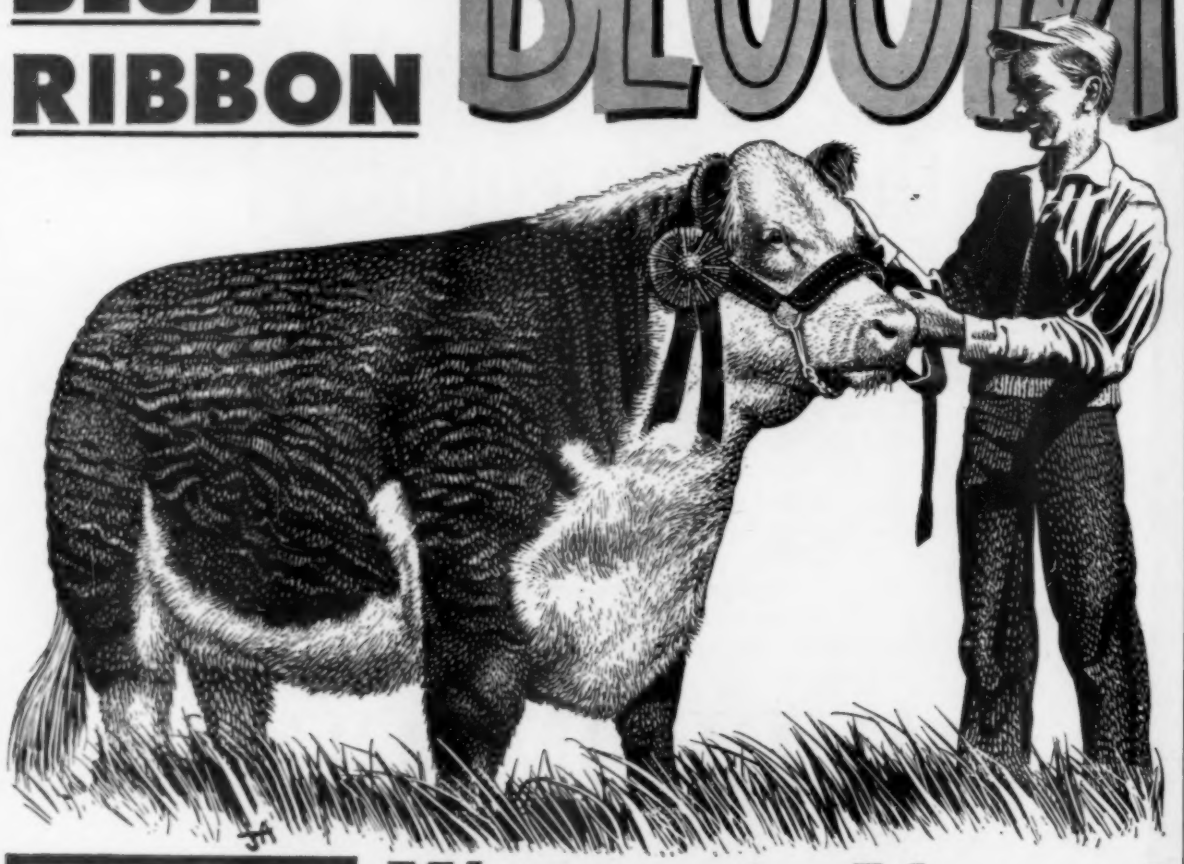

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With Linseed Oil Meal and 5% Urea	$22.50	+$23.36

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method. It is also a good idea to maintain adequate nutritional levels to prevent parasite damage in case of chance infection.

THE FUTURE OF AMINO ACIDS IN LIVESTOCK AND POULTRY FEEDS — Dr. J. T. Raper, Dow Chemical Co., Lake Jackson, Texas: Feeds of the future supplying extremely high levels of energy are anticipated. Such diets will place more stress on protein quality and the balance of amino acids. It does not appear possible to balance amino acids without supplementation with synthetic products unless there is a sacrifice made in total energy content. Future diets may show the need for addition of amino acids considered non-essential at the present time.

Another use of amino acids will be as balancers in low-protein, high-energy feeds. Such diets could be extremely high in energy because of the extra space in the bag which would be allowed by the use of lower protein feed. Amino acid balance and the relationship of these nutrients to total protein will be critical. Such feeds may require the addition of several amino acids.

The future use of amino acids will be dependent upon the economics of production.

CALF STARTERS AND CREEP FEEDING—Dr. O. H. Horton, University of Arkansas: Increasing demand for finished calves has led dairymen to produce veal from their surplus calves. This has created a need for calf starters and milk substitutes to eliminate the need of feeding whole milk at as early an age as possible.

In recent years calf starters have been fed to calves as soon as the colostral period was over (4 days). The North Carolina station reports daily gains of 1.19 and 1.13 lb., respectively, when only 32 lb. and no whole milk was fed from 4 to 60 days of age. Other stations report that calves fed on limited milk with the addition of Aureomycin to a starter gained 1.25 and 1.32 lb. per day on a 12.2 and 14.2% protein ration, respectively. The addition of methionine and potassium oratate increased gains up to 25%, Florida workers reported.

Perhaps one of the greatest responses obtained in recent years was reported by Virginia workers where they used 300 to 500 lb. dairy heifers and fed them chopped hay (alfalfa-orchard grass). A single-reversal trial was used and those heifers in Group 1 fed two times daily gained a total of 216 lb. and when fed 10 times daily gained 323 lb. Group 2 on two-times feeding gained 78 lb., and 240 lb. when fed 10 times. The experiment was of 100 days duration.

PROTEIN LEVELS IN CONCENTRATES FOR DAIRY CATTLE—Dr. O. T. Stallcup, University of Arkansas: The protein level of the concentrate should be determined by the following factors: (1) The rate of feeding of the concentrate. (2) The protein level of the forage.

The type and quality of forage fed vary greatly with the season of the year, weather conditions and other factors. The feed manufacturer cannot formulate and keep in stock concentrate mixes that will cover all situations. In general, most situations can be covered with the following mixes:

(1) A dry cow and freshening ration of approximately 14% crude protein content to be fed to dry cows and the first month or so of lactation and at any time that cows are on lush pasture.

(2) A concentrate mixture containing 16% crude protein to be fed with mixed legume-grass roughages of which lespedeza hay and Atlas sorgo silage would be examples.

(3) A concentrate mixture containing 18% crude protein for cows on low rates of concentrate feedings, or on average rates of concentrate feeding with lower quality roughages.

(4) Concentrates containing higher levels of protein for combining with home grown grains or for use in some cases for wintering younger animals who are on high carbohydrate, low protein forage rations.

SUPPLEMENTAL FEEDING OF RANGE CATTLE—Dr. Maurice L. Ray, University of Arkansas: Research has indicated that such products as chicken litter, rice hulls and rice millfeed, cotton field refuse and low quality hay can be profitably used in feeding beef cattle if their limitations are known and provided for. Recent work at this station has shown that such poultry by-products as blood and bone meal and hydrolyzed feather meal can be used in fattening or wintering rations.

The perennial question confronting the beef cattle producer with commercial or range cattle is that of adequate supplementation of range forage.

Additional research needs to be conducted regarding types of supplementation designed to meet specific problems of the range beef cattle producer.

The problem of supplemental feeding of range cattle is one with which producers and feed manufacturers will have to wrestle continuously until more questions are answered through research.

PELLETING, SOAKING AND ADDING OF ENZYMES TO FEEDS —Dr. Douglas Hamm, University of Arkansas: It is not now necessary to offer proof of the value of pelleting certain prepared rations. This is especially true in broiler feeding. The question therefore arises, what is the basis for the results of pelleting? Is it merely a mechanical process or does it imply chemical changes? Is it based on change of density alone? Or as some say, "a complete ration in every bite"?

Pelleting reduces dust. There is less waste because the chick can pick up pellets out of the litter. Some have claimed that pelleting was a panacea for poor management. Most of these are true at least in part. But they do not account for the fact that several workers have shown that growth responses can be obtained when reground pellets are fed.

Recent work with pelleting has been concerned with two major fields: First, the mechanism of ac-

(Turn to **ARKANSAS,** page 69)

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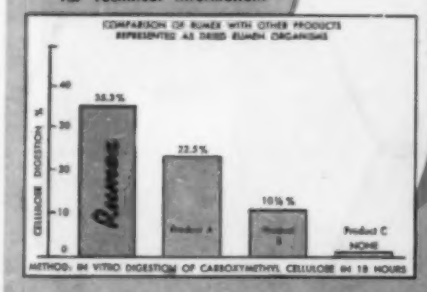

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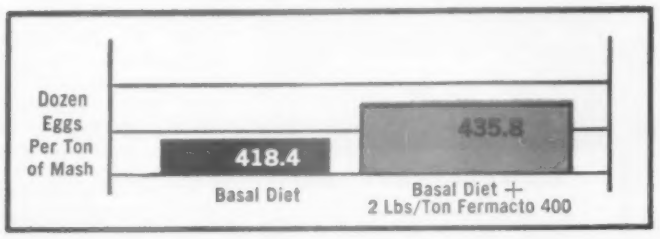

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Problems in the Poultry Industry

The Official Report of the House Sub-Committee Which Conducted an Investigation of Broiler Industry Problems

EDITOR'S NOTE: Attracting a good deal of attention in 1957 among feed and poultry industry people was a congressional sub-committee's investigation of problems in the poultry industry—and the broiler industry in particular. The investigation included the testimony by numerous feed men. The study was conducted by a sub-committee of the House Select Committee on Small Business. Heading the sub-committee was Rep. Charles H. Brown (D., Mo.). The sub-committee's report on its investigation was recently filed and published. The accompanying article is the complete text of the report. (A review of the report appeared in Feedstuffs Sept. 6.)

INTRODUCTION

Purpose and scope of the present inquiry: This report, submitted to the Select Committee on Small Business of the House of Representatives, presents the findings and recommendations based on investigation and hearings conducted by Subcommittee No. 6 on the problems of small business in the poultry industry. This subcommittee is charged with the responsibility of studying and investigating the problems of small business pertaining to the food production and distribution industries. The report is submitted with the unanimous approval of the subcommittee.

The specific purpose of this inquiry was primarily concerned with that phase of the production of poultry and poultry products which became known as the "broiler industry."

The subcommittee received many complaints relative to the allegedly unsound and unwise credit policies and practices of nationwide manufacturers and distributors of feed and of the larger meat packers engaged in broiler production and marketing. Upon the basis of such complaints extensive hearings were held at which witnesses were heard representative of all phases of the broiler industry. These witnesses included officials of the U.S. Department of Agriculture, representatives of large and small feed manufacturers, large and small primary breeders and hatcheries, large and small processors, independent producers and "contract growers" of broilers and others interested in the broiler industry.

The substance of the complaints from small and independent businessmen and groups in the industry alleged that the present overproduction and declining prices were due to unfair tactics and practices which had the effect of driving the independents out of the industry. It was alleged that the alternatives for the independents were either some form of "integration" or "contract growing." Dissatisfaction concerning the state of the broiler industry was voiced not only by the independents but by some of the larger business organizations who felt they were forced into unwholesome practices by their competitors. Government officials also expressed concern about conditions in the broiler industry.

THE BROILER INDUSTRY

Development: The modern broiler industry has achieved its present status in a matter of two decades. Its development and expansion is additional evidence of American ingenuity and enterprise. Gone are the days when chickens from the farm were a small residue of farm income. In less than two decades the modern broiler industry has grown from an individual and sectional endeavor to a nationwide industry. Production of broilers, instead of being counted in the millions, is now counted in the billions.

The broiler industry is not an accident in our industrial complex; it has been brought to its present state of importance by the ingenuity and industry of many thousands of persons who have sought by constant improvement of the "bird" itself to gain increasing acceptability in the American home. Chicken is not something we eat only on Sunday anymore; broilers are on the American housewives' table almost every day of the week and every month of the year. The broiler industry, as an important adjunct to the food supply of our nation, is not only worthy of the consideration of all concerned with the industry but worthy of the concern of the Congress and the executive branch of our government.

In testimony before the subcommittee Hermon I. Miller, director, Poultry Division, Agricultural Marketing Service, Department of Agriculture, had this to say, in part, about the growth of the broiler industry:

"The poultry industry of the mid-20th century contrasts sharply in many important ways with the industry of one or two generations ago. In 1920, chickens were raised on more than 5.8 million farms, or about 90% of all farms in the U.S. Farm poultry enterprises were almost entirely sideline operations maintained primarily to furnish farm families with eggs. . . . The commercial broiler industry had not yet been born. . . .

"It has often been said that changes within the poultry industry, and particularly in the broiler and turkey industries, have been more dramatic than in any other segment of our agricultural economy. . . .

" . . . The reasons are many, but basically two factors predominate: First, has been the impetus on production caused by the tremendous increase in the consumer demand for poultry and poultry products. . . .

"The second basic factor . . . has been the great strides made in efficiencies of production. . . .

" . . . Commercialization in the poultry industry is thus primarily the effect of increases in consumer demand and improvements in production efficiencies.

" . . . The farm income from poultry and poultry products is third in importance in all of agriculture. In recent years the income to producers has approximated $3½ billion.

"Although the production of poultry has increased dramatically over the last decade, the number of farms producing poultry has declined. For example, between the census of 1949 and that of 1954, only a 5-year period, the production of chicken meat increased 25%, while the number of farms selling chickens decreased 41%. . . .

"The segment of the poultry industry which has developed most rapidly has been the production of broilers. Production has increased at a rate of approximately 20% a year since the industry's early development in the mid-1930's. . . .

" . . . Primary credit belongs to the alert and enterprising farmers, processors, distributors, and manufacturers of equipment for poultry farms and plants who have forged ahead applying new knowledge to old problems with imagination and industry." (Hermon I. Miller, pp. 3, 4, and 5, hearings.)

Finally, Mr. Miller, after detailing many aspects of the broiler industry, including the tremendous genetical and technological improvements, expressed his faith in the future and concluded that:

" . . . The principal concern of this committee, and of everyone interested in the welfare of the poultry industry, is how to achieve some degree of stability in the industry so that those who produce and market poultry can enjoy a good living." (Hermon I. Miller, p. 10, hearings.)

Therefore, an objective study of the American poultry industry begins with the broiler—the meat-type chicken (often called fryers) which has become a staple item of every independent grocer and supermarket. Industry spokesmen often say that the new "factory" methods for growing and marketing broilers are the pattern for current and future developments in all types of poultry and egg production. This trend was confirmed by the Department of Agriculture when, in reply to a question, Mr. Miller said:

"I think we are moving in the direction of what might be called a factory meat production system." (Hermon I. Miller, p. 30, hearings.)

Prices and production: Despite year-to-year fluctuation in production and prices, the decade prior to 1956 was—in total—a period of prosperity and growth for the broiler industry.

In 1956, however, a serious supply-demand imbalance led to a 22% drop in prices which resulted in a loss of at least $30 million to the American broiler producers. The unfavorable broiler price situation of 1956 continued through 1957, eliminating many smaller producers and business concerns from the broiler industry and posing serious financial problems for even the more substantial operators.

Testimony before the the subcommittee revealed:

1. One of the casualties of continuing low price levels has been the broiler producer's reliance on a "free" market. Less than 10% of the 50,000 broiler-house owners are small-business enterprisers today. More than 90% of the American broilers are grown under contract (mostly on a fixed fee piecework wage basis).

2. Supercontractors (feed manufacturers or dealers, hatchery owners, processing plant owners, etc.) are primarily the policymakers in the modern broiler industry.

3. A sharp controversy over "contract growing" and "integration" had produced internal dissension within the industry at a time when cooperation and singleness of purpose were essential to the industry's economic well-being and future expansion to keep pace with a growing demand as the population increases.

Hearings: The printed transcripts of the subcommittee's hearings afford a wealth of material from all points of view on all phases of the industry. Among the subjects covered, for example, are financing (credit and capital), types of growing contracts, types and extent of integration, trade practices in the distribution of feed, the history of insurance plans, regional problems,

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production and distribution of eggs, and many others. Members of the industry and students of the industry's problems should find these hearings most useful in making any analysis of the poultry industry as it is presently constituted.

SALIENT POINTS OF TESTIMONY

The subcommittee has reviewed the testimony of some 63 witnesses who appeared before the subcommittee or submitted statements. In addition it has reviewed comprehensive statistical data compiled by the subcommittee staff as well as the hundreds of letters received from interested individuals. On the basis of this record the subcommittee directs the attention of leaders in the broiler industry and government officials to the following points of the testimony which are pertinent and important:

1. The broiler industry has a prime salable product in great demand which should command its true value in the market place.

The subcommittee has received no evidence that consumers demanded the below-cost bargain prices on broiler meat in 1956-57. Americans like broiler meat. Americans were paying comparatively higher prices for other commodities while they were getting lower prices on broilers.

A key determinant in meat consumption, generally, is expendable income of consumers which was at record levels in 1956 and 1957. Broiler meat consumption does not seem to increase appreciably with lower prices or to decrease with higher prices. In fact, per capita consumption has increased steadily for many years. For example, from 1946 through 1956 the per capita consumption rose from 4 pounds to 16.6 pounds. In 1956, the consumption of broiler meat increased 3.1 pounds over the 13.5 pounds per capita for the year 1955. In 1948 the per capita consumption increased over 1947, while prices to producers increased 3.7¢ per pound. A similar price increase occurred in 1952 with increased consumption over 1951. Increased public acceptance of a greatly improved product resulted in remarkable overall per capita consumption increases after World War II.

The broiler industry has a good product and the American consumer buys it in quantity.

"If we have so much money tied up in our product, there is no reason why sufficient money cannot be obtained from that product that will pay everybody's way." (John Hergreaves, p. 148, hearings.)

2. The fundamental problem of the broiler industry is orderly production and marketing.

Any manufacturer, large or small, must have some overall production goal, based on previous years' demand plus calculations of changing market conditions.

The subcommittee hearings reveal that despite the present information service available through the USDA, there seems to be a genuine need for a more coordinated effort for the broiler industry (1) to establish an overall production objective, translated into monthly production targets for the various broiler areas; and (2) to adjust output to seasonal demand.

It developed that there are some 50,000 broiler producers, and because of decentralization coordination is made more difficult, but not impossible.

Testimony revealed that "contract growing" and "integration" have resulted in concentration of production in fewer hands, and witnesses stated that this situation should have led to more orderly production and marketing but that the result has been just the opposite.

The subcommittee received substantial evidence that the broiler industry has now reached the point where it must seriously consider ways and means of stabilizing production.

". . . The demand has been terrific but the production is way ahead of it." (Jacob Furman, Hampton, Mass., p. 140, hearings.)

3. The broiler industry is not adjusting to seasonal demand.

Testimony before the subcommittee based on USDA studies reveals that for every 250 frying chickens that can be sold in July, about 140 can be sold in December without "forcing" the market.

Further testimony indicated that contract growing makes it extremely difficult for the industry to adjust the broiler supply to the seasonal fluctuations of demand. Witnesses asserted that there is no difference between what the broiler-house owner receives for birds grown in summer months when market prices are higher, and what he receives in the fall and winter when a portion of his broiler house capacity should be idle. Thus, industry members say that contract growing supplants orderly production and aids the natural desire to produce at full capacity the year around.

Hence, the urgency of major feed suppliers for increased production irrespective of the ability of the market to absorb the oversupply, created the basic problem in the industry, namely, contract growing. It

(Turn to page 54)

NFIA CONVENTION SPEAKERS—Three of the several speakers who addressed the convention of the National Feed Ingredients Assn. at Chicago recently are shown here. In the first picture is Dr. Damon Catron, swine nutritionist at Iowa State College. The speaker in the second picture is Jerry Sotola, Armour Livestock Bureau, Chicago. Addressing the group in the third picture is George Anderson, Erwin Wasey, Rutthrauff & Ryan, Inc.

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Magnesium sulfate	10.00	Cobalt sulfate	0.02
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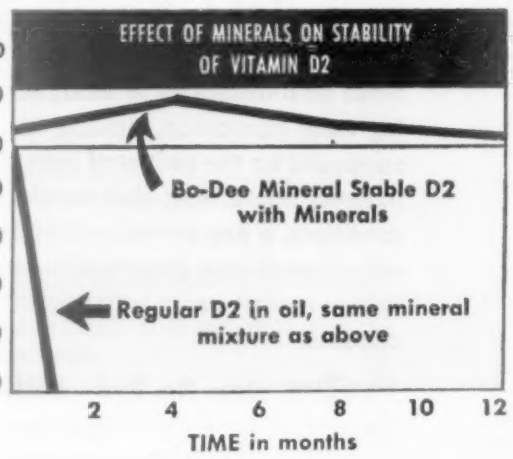

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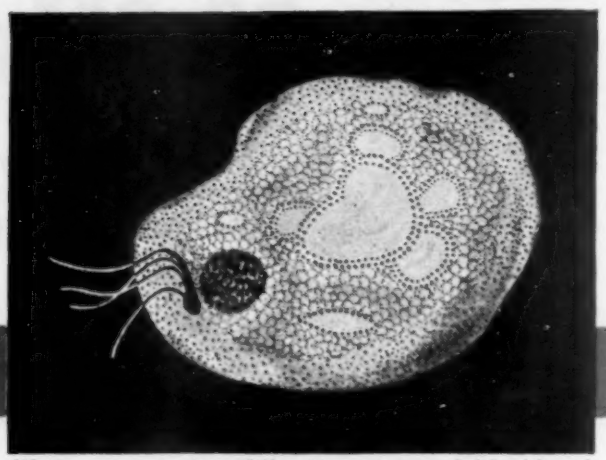

Histomonas meleagridis, the cause of blackhead infection in turkeys.

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Since its introduction in 1957, as a soluble powder for drinking water medication, HepZide has proved a highly effective compound for the **control** of both blackhead and hexamitiasis in turkey flocks. Now, after months of testing under rigid field conditions, a **new** pre-mix—HepZide Mixture "20"%—is available. Provide your growers with continuous, high-potency protection against costly outbreaks of these important protozoan diseases.

HepZide Can Be Fed—With Complete Safety—To Turkeys of All Ages—HepZide, a patented product of Merck, has demonstrated a remarkable degree of potency against the parasites responsible for blackhead and hexamitiasis. But, in marked contrast to other anti-blackhead agents, HepZide is safer in practical use—will not interfere with **growth, sexual maturity, subsequent egg production, fertility or hatchability.**

Feed Consumption Remains At High Levels—Reduced intake of medicated feeds sometimes presents a serious problem to growers in trying to finish birds with efficient feed conversion ratios. Not so with HepZide. Rations containing this compound at recommended levels are palatable, readily consumed by young, growing or mature birds. And sustained feed consumption helps poults make consistent gains in weight, means maximum protection against blackhead and hexamitiasis—from brooding to marketing.

CHART A

HepZide checks blackhead, hexamitiasis losses

Total Flock Mortality

50% NO PROTECTION

Less than 2% CONTINUOUS PROTECTION WITH HepZide

These Beltsville White turkey broilers were sold at 16 weeks of age with an average weight of 8.07 pounds and a feed conversion of 3.15.

HepZide Checks Blackhead Losses

A wide range of effectiveness has been demonstrated by HepZide in a series of trials conducted under practical field conditions. On one farm (Chart "A"), one flock of Beltsville Whites had suffered 50 per cent mortality due to blackhead and hexamitiasis. A second flock of 9,000 Whites started on the same premises, with little or no clean up and disinfecting of quarters, was placed on rations containing prophylactic levels of HepZide from the time they were one day-old to 16 weeks of age. **The less than two per cent general mortality in this second flock** attests to the high degree of protection against these two protozoan diseases.

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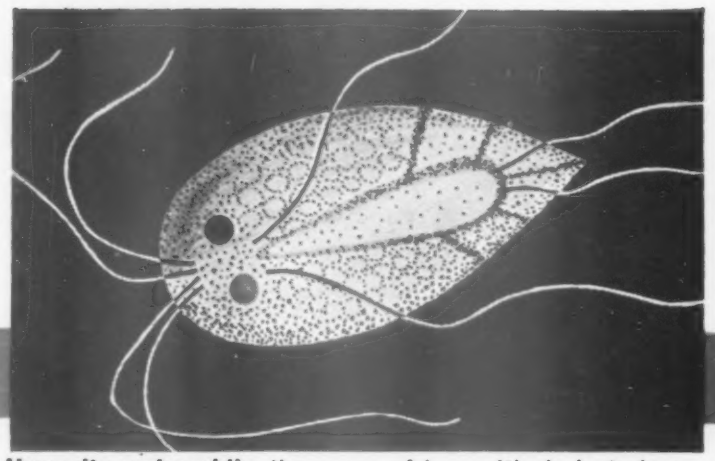

Hexamita meleagridis, the cause of hexamitiasis in turkeys.

CHART B*

HEPZIDE HELPS GROWER MARKET HEAVIER BIRDS ON LESS FEED

2,325 Broad-Breasted Bronze Turkeys

Birds Started	2,325
Birds Finished	2,225
Mortality (all causes)	2%
Age When Sold	24 weeks
Weight When Sold (toms)	26.3 lb.
Weight When Sold (hens)	16.5 lb.
Feed Conversion	3.79

According to the pathologist supervising this trial the "flock had good weight, feed conversion and livability. There was no evidence of blackhead at any time."

A continuous preventive program pays off—Blackhead infections, no matter how mild, rarely confer immunity against subsequent attacks. And even light infections, or subclinical infections with no outward signs of disease, may result in mortality or serious setbacks in weight gains. In addition, blackhead and hexamitiasis strike birds at different ages.

The most practical and economical approach to the problem of blackhead (and hexamitiasis) is the continuous use of feeds medicated with HEPZIDE. Prophylactic levels of this compound will check tissue damage and mortality as a result of these diseases, will help your growers market heavier birds at an earlier age.

*The results shown in Chart "B" are representative of those reported from flocks under varying farm conditions, fed rations containing low levels of HEPZIDE from the time they were placed on litter.

This is a photomicrograph of an embryonated cecal worm egg (Heterakis gallinae).

Cecal worm eggs, carrying blackhead organisms, can survive in the soil **and transmit the disease for periods up to three years!** On overcrowded, or contaminated ranges, continuous protection against blackhead losses may be obtained through the continuous use of feeds medicated with prophylactic levels of HEPZIDE. Merck & Co., Inc., Chemical Division, Rahway, New Jersey.

Coccidiosis symptoms are sometimes difficult to detect—and, one sick poult can rapidly infect an entire flock.

S.Q.® (sulfaquinoxaline) added to your rations at low levels, will protect poults against profit-draining coccidiosis "breaks."

Are your customers interested in dual-action antibiotic fortification of their turkey rations? Recommend low-cost PRO-STREP® the effective combination of procaine penicillin and streptomycin sulfate in a ratio of 1:3.

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became a matter of "feed tonnage" rather than orderly production of broilers seasonably geared to the market.

The consensus was that the contract growing system runs into basic obstacles for broiler-house owners when it operates at peril-point minimum levels, on a guaranteed piecework fee pattern. The guarantee is not sufficiently onerous to discourage the contractor; but it is at a level which forces broiler-house owners to seek contracts in order to operate their houses at full capacity throughout the year to make ends meet.

4. Contract growing as presently practiced is aggravating the supply-demand imbalance and probably creates as many problems as the system was intended to solve.

The record of the hearings demonstrated that complete production integration is still rare in the broiler industry. Outstanding examples exist in Georgia and in Maine, but few individuals or companies have, as yet, completely integrated all the functions of production, growing-feed manufacturing, processing, and marketing, under one ownership.

The present integration stage in the broiler industry is predominantly accomplished through contract growing. As previously pointed out, more than 90% of all broilers produced in the U.S. are grown under contract.

The record indicates that some members of the industry look upon contract growing of broilers as subcontracting. However, the broiler house owner is not a subcontractor in the accepted sense. In most instances, he merely leases out his broiler house and hires out his labor to a contractor, on a piecework fixed-fee basis. At current levels, the fee is barely enough to cover wages and provides very little rental payment for the broiler house. Many witnesses indicated that the fee was not enough to cover realistic depreciation and normal upkeep.

The contract growing system, as it has evolved in the broiler industry, was characterized as a most unique and a most unnatural economic phenomenon: The worker builds a factory in order to get a job in the factory. The factory is operated by a hatcheryman, feed dealer, or processor.

Proponents of contract growing contended that it reduces cost of production ½¢ to 1¢ per pound. However, the assumption was advanced that a fair comparison of costs between independent growers and wage-earner growers cannot be made because contract growing on a piecework wage basis is a relatively new development in the industry.

"We have no delusions, or anything, that our growers are getting a complete return on their investment at the present basis of operation." (Don Corbitt, p. 133, hearings.)

"I would be in favor of anything that would equalize the labor cost. . . ." (Frank Lipman, p. 130, hearings.)

It is significant that the largest integrated producer in the U.S. wants to get out of contract growing, because the growing end is getting unprofitable. (J. D. Jewell, p. 231, hearings.)

Thus, according to witnesses before the subcommittee, whatever the merits or demerits of contract growing and integration, it has apparently reached its present proportions because broiler prices to independent producers have frequently been less than bare costs of production. If the chances for profit were a little better, many growers would return to independent risk-taking operations, even though many might still prefer the security of the piecework wage.

5. One of the basic problems in maintaining broiler supply-demand balance is the highly competitive expansion that has occurred in primary breeder operations.

The subcommittee was told by numerous witnesses that "if the chicks are hatched, they'll find a home somewhere"; and the broiler chick hatchery business starts with the primary breeder.

The subcommittee was told that the source of all the 1½ billion broilers produced in the U.S. are the primary breeders; and today, 2 breeder farms control 75 to 85% of all the female line chicks produced, and 2 other breeder farms control 80 to 90% or more of the male line chicks produced. The Department of Agriculture gets reports of "placements" from 10 primary breeder farms and feels that the 10 cover the whole broiler chick picture.

With this growing concentration of broiler chick breeding (it could change very rapidly, if some new firm developed a superior line), and with the concentration of broiler production in certain geographical areas, the number of hatcheries has declined from 11,405 in 1934 to 5,031 in 1956. Yet, incubator capacity has almost doubled in that same period.

On the basis of information supplied the subcommittee by primary breeders, it would appear that 80 to 90% of the hatchery business in broiler chicks today is done by only 600 hatcheries. Some 40 to 50% of it may be in the hands of only 50 to 100 hatcheries.

The subcommittee study revealed that the "battle of the giants" at the top of the primary breeding structure has had the breeding farms bulging at the seams with heavy-laying hens, now producing more eggs per year than ever before in history. Surplus chick situations developed in 1956 and 1957.

When faced with a surplus of chicks, the hatchery can (1) destroy them, or (2) grow them. In most instances, the subcommittee learned, the hatchery becomes a contractor and broiler houses are operated at full tilt, regardless of consumer demand. This is another part of the contract growing system.

In executive study sessions, the subcommittee heard representatives of the leading primary breeder operations and was told: (1) The primary breeder must plan his production at least 2 years ahead and each wants to be ready for chick orders, so the tendency is constantly toward a

(Turn to page 57)

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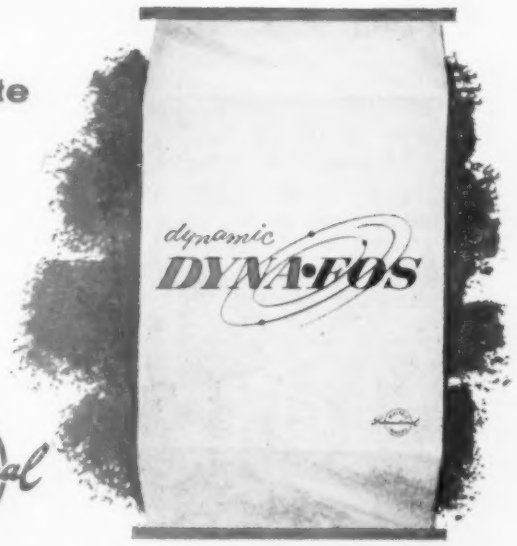

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17-WEEK and 56-WEEK TESTS prove value of Methionine

Tests were conducted with 1,200 birds at a large commercial farm

17-WEEK TEST

Feed efficiency: lbs. feed/lbs. egg produced

Pre-experimental treatment (4 weeks) on common diet	3.99	3.80	3.81	3.66
	#1 Ration 16.5% protein 922 cal./lb.	#2 Ration #1 with 0.05% methionine added	#3 Ration 16.5% protein 1009 cal./lb.	#4 Ration #3 with 0.05% methionine added
Experimental Period (13 weeks)	4.60	4.17	4.43	3.83
Change	0.61	0.37	0.62	0.15
Effect of Methionine (lbs. of feed saved)	—	-0.14	—	-0.47

56-WEEK TEST

Feed efficiency: lbs. feed/lbs. egg produced

	3.58	3.66	3.65	3.41
	#1 Ration 15.6% protein 991 cal./lb.	#2 Ration #1 with 0.05% methionine added	#3 Ration 14.9% protein 1096 cal./lb.	#4 Ration #3 with 0.05% methionine added
Effect of Methionine (lbs. of feed saved)	—	-0.08	—	-0.24

Two tests conducted by Du Pont on 1,200 birds at a large commercial poultry farm in New Jersey show that methionine added to high-energy diets improves the feed efficiency of egg production.

In a 17-week exploratory test, the basal diet supplemented with methionine produced a pound of eggs on *0.14 pound less feed* than when unsupplemented. When the energy level was increased about 10%, the advantage due to methionine more than tripled. (See box left.) A 56-week test confirmed these findings.

In both experiments, the increase in energy content was without effect until additional methionine was supplied to diets—demonstrating that methionine is the first limiting amino acid for egg production in ordinary feed mixtures.

Furthermore, mortality was lower in all diets containing supplemental methionine. Hens receiving unsupplemented high-energy rations gained more body weight than those fed lower-energy feeds. This gain was considerably reduced when methionine was added. For a complete report on these tests and the rations used, write the Du Pont district office nearest you.

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slight chick surplus; and (2) primary breeders get full price for their "seed stock," whatever the supply-demand situation or market price of dressed broilers.

The subcommittee received testimony that, in 1957, some primary breeders raised prices on breeding stock while the rest of the broiler industry was suffering price declines. However, as the subcommittee was informed, any prolonged depressed market on dressed broilers affects the primary breeder in that it reduces his sales volume eventually and can make his own growing operations financially hazardous.

It was apparent to the subcommittee that primary breeders are highly competitive, each trying to develop the "super strain" meat chicken; and the incentive to keep breeder flock numbers at ever-expanding levels is tremendous.

Reports before the subcommittee indicate that the major primary breeders have steadily increased their breeding flock numbers substantially every year for the last 4 years. Whatever temporary reductions were made in breeding flock numbers during that period have been made by breeder farms doing only a small percent of the total industry volume.

6. Expanded supply of broilers in recent years has frequently placed broiler growers and processors at the mercy of the buyers in the market place.

The subcommittee was told by witnesses that the seller's position in the market place has changed entirely in recent years and that buyers are "dictating to the processor."

A leading broiler processor told the subcommittee that large chain-store buyers frequently tell processors that they are "going to give you a price based on a 17¢ market" and processors go out and buy live birds at 17¢ or less.

The "chain reaction" that frequently occurs in the dressed bird market and depresses prices in one broiler area after another was described by one witness:

"Here is what buyers will do—they will go to Arkansas and . . . if Arkansas is 1¢ below Georgia, it won't be long before Georgia is on the same level, and so forth."

Witnesses pointed to Delmarva as an area of competitive buying, "where they go and look at the chickens and see the grade and size," and characterized the Delmarva Live Poultry Auction Growers' Exchange at Selbyville, Del., as "an honest market and a very good way of determining the value of poultry at farm levels." The Delmarva area appeared to be the only area that has adopted the auction growers' exchange idea, however.

According to the testimony, a few attempts have been made to establish a competitive public market for dressed broilers, similar to the grain exchange or mercantile exchange, but none has so far succeeded. One witness was of the opinion that federal government grading and inspection would make broiler meat more of "a standard product" on which to base such an operation.

But, generally speaking, it was the testimony of witnesses that both live bird and dressed broiler prices in recent years have frequently reflected buyer domination in the market area, and prices paid are not always a true reflection of supply-demand situation.

FINDINGS AND CONCLUSIONS

1. The subcommittee finds that "contract growing" and "integration" raise serious questions affecting the national interest.

Just how far a single ownership should go in owning and controlling all functions of an industry from the original raw product to placing it in the hands of the consumer is a question that has interested our government since the turn of the 20th century.

Carried to its ultimate potential, widespread complete integration of manufacturing, processing, and distribution could turn the business community into one of a few employers and a nation of employees.

Anyone who believes in small business and the right of every American to own his own business and be his own boss could not look with favor on excessive concentration of industrial control in the broiler industry.

In some industries, large concerns are essential because industrial effectiveness requires tremendous outlays of capital, comprehensive re-

(Turn to page 60)

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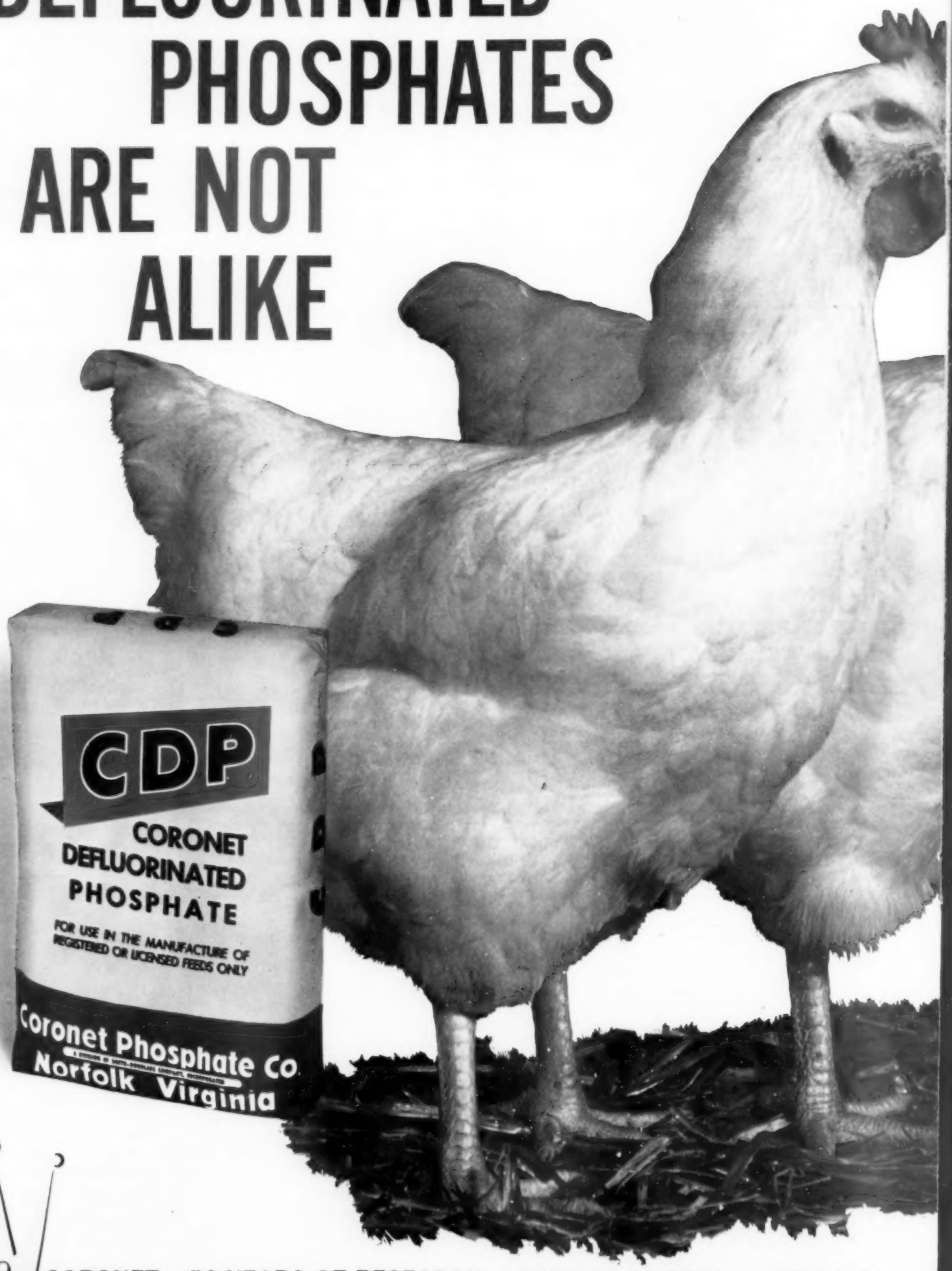

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1. "The Availability of Phosphorus from Different Sources for Poults Fed Purified Diets." Poultry Science, Volume XXXIII, Number 5, September, 1954.
2. "A Comparison of the Availability, to the Young Growing Chicken, of the Phosphorus in Defluorinated Phosphate and Analytical Reagent Grade Dicalcium Phosphate," by Lime Crest Research Laboratory, October, 1954.
3. "The Availability of Phosphorus from Different Sources for Poults Fed Practical-Type Diets." Poultry Science, Volume XXXIV, Number 5, September, 1955.
4. "Phosphorus Availabilities as Determined by New Feeding Experiment," by Lime Crest Research Laboratory, November, 1955.
5. "Phosphorus Availability Assays by the University of Illinois Method," (as presented by Dr. H. H. Scott) by the Laboratory of Vitamin Technology, Inc., September, 1956.

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Product A	96.48%	51.19%	19.41%	55.69%
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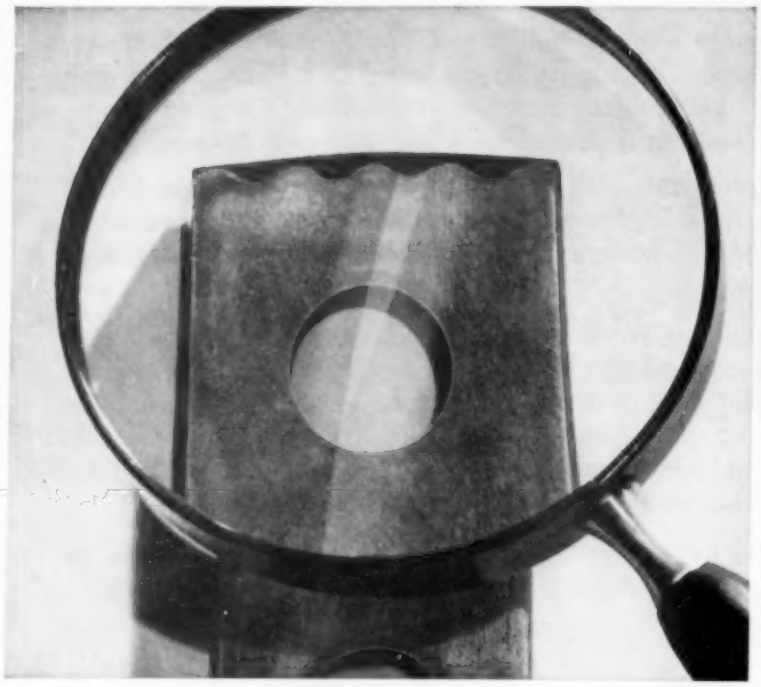

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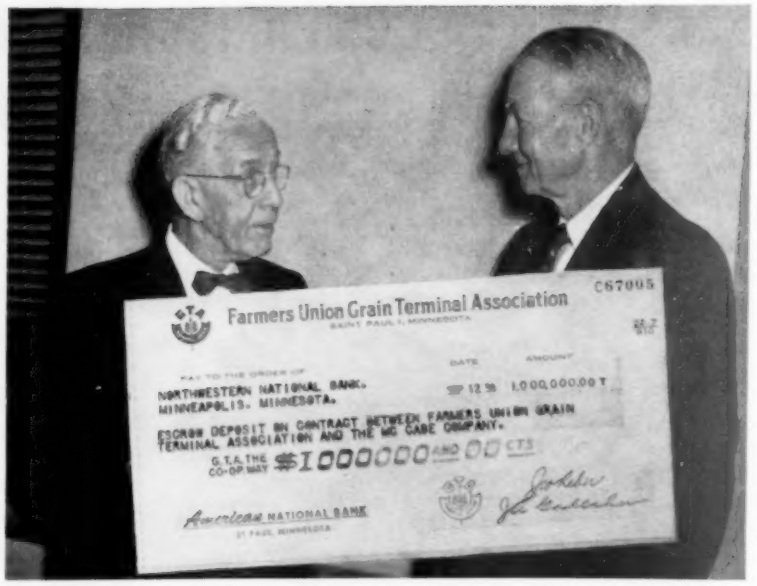

DEAL CONSUMMATED—M. W. Thatcher, general manager, Farmers Union Grain Terminal Assn., St. Paul, left, and Ben C. McCabe, chairman of the board of the McCabe Co., Minneapolis, consummate the $4.8 million deal whereby GTA acquires the McCabe properties Oct. 1. The million dollar check bound the deal. (Feedstuffs, Sept. 20.)

search facilities, and sizable administrative organizations.

However, the subcommittee is of the firm opinion that the broiler industry is an industry where small business can perform any necessary function as efficiently as a giant concern.

Normal capital requirements are well within the small business range. Production units are separate and decentralized. Small business played a significant part in building the broiler industry and should be permitted to stay in the industry as independent business entities.

The subcommittee finds that certain integration practices in the broiler industry possibly may be in violation of existing antitrust laws.

A complaint to the committee raises the question: Is it discriminatory pricing when a feed manufacturer sells his feed to one broiler grower (a franchised feed dealer) at a wholesale price but insists that another broiler grower (a farmer) pay a higher price?

Another complaint to the committee asks: When a person is hired by a manufacturer or the manufacturer-er's local agent to grow broilers in a building leased by the manufacturer, is not this person just as much an employee of the manufacturer as an individual who drives a truck or sits behind a desk at the manufacturer's home plant?

2. Traceable government financing of broiler houses amounted to about 5% of total production expansion in the period 1953-56.

The charge was made to the subcommittee that government agencies were responsible for the vast expansion of broiler production in recent years.

Based on reports of the Federal Housing Administration, the Farmers' Home Administration and other federal lending agencies involved, the subcommittee compiled the information in table 1.

While it is obvious that Government money (loans) accounted for only a fraction of the total new production, Senator John J. Williams, of Delaware, had an excellent point when he said he was "amazed to find Government money pouring into an overexpanded industry, in contradiction of an announced departmental policy."

The subcommittee suggests, however, that there should be a delineation between "construction" loans and "operating" loans. Government money for broiler "factory" construction when such construction is inadvisable is contrary to the best interests of the broiler industry; but well-supported production loans for supply needs do not actually increase broiler production. If the "factory" owner does not get a Government loan, he can certainly get credit from suppliers. This raises the question Is it better for him to borrow from a Government agency and buy his supplies at competitive prices or go in debt to suppliers?

The subcommittee adheres to the principle that sound credit is always desirable whatever the source. However, credit which by its very nature permits control of the borrower and

TABLE 1

Year	Increase in number of broilers raised	Increase traceable to Farmers' Home Administration	Increase traceable to FHA Title I
1954 over 1953	99,000,000	895,950	2,000,000
1955 over 1954	44,000,000	1,508,780 *+534,950	2,300,000 †+2,000,000
1956 over 1955	253,000,000	487,800 ‡+895,930 †534,950	5,700,000 ¶+2,300,000 †+2,000,000
Total	§396,000,000	**4,858,350	††16,300,000

*Carryover new production resulting from broiler housing built, 1954—assuming houses' capacity utilized fully in subsequent years.
†Carryover 1954.
‡Carryover housing built 1955, assuming full utilization subsequent year.
¶Carryover 1955.
§100%.
**1.2%.
††4.1%.

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the loss of his business independence is certainly unsound credit in the accepted sense.

Thus the independent broiler grower, who because of industry practices finds himself in a position where his only recourse is through his gient supplier, certainly loses his independence. This the subcommittee believes is detrimental not only to the individual but to the broiler industry and our total economy. The subcommittee also believes that excessive credit which has the effect of producing beyond market demand—hence, beyond consumer demand—is detrimental to our economy. This has been the case in the broiler industry and is particularly applicable to the contract-growing phase of the industry.

RECOMMENDATIONS

The subcommittee feels that there is substantial merit in the following suggestions which have been submitted to the subcommittee by industry representatives:

1. That the broiler industry attempt to formulate a program for orderly production and marketing.

2. That the broiler industry and the Federal Government work together to utilize some of its temporary overproduction for a "sampling" operation in selected foreign countries, to help stimulate foreign acceptance of American broiler meat and to improve the Nation's foreign relations.

3. That the broiler industry and the U.S. Department of Agriculture cooperate in promptly furnishing all broiler producers and breeder flock owners with dependable statistical information on seasonal variations in demand for broiler meat.

4. That so long as there is contract growing, the broiler industry take aggressive steps to improve and standardize contract policies: (a) agreements clearly indicate the portion of the fee that covers leasing of the broiler house and the portion covering payments for service; (b) agreements provide for leasing the broiler house for, at least, a full 12-months' period, so that contractors may adjust production for all winter marketings without fear of losing the grower to a competitor.

The subcommittee suggests that any contract form designed for general adaptability to the growing of broilers should contain ethical standards for the conduct of all factors in the industry. In a sense a standard contract applicable to the growing of broilers should be utilized not only as a contract between the grower and his principal but also as a statement of fair and equitable practices for the entire broiler industry. The subcommittte further suggests that if representatives from 4 or 5 of the principal growing areas, such as Connecticut, Delmarva, Arkansas and Georgia areas, could sit down together with the firm purpose of eradicating the unwholesome practices in the industry, the entire industry would soon follow their lead.

The subcommittee feels that the solution of many of the problems now besetting the broiler industry is within the purview of the industry itself. A standard growing contract so drawn that it will have general acceptability throughout the industry would undoubtedly provide a measure of industrial statesmanship which has been lacking in the industry.

5. Broiler chick hatcheries — with the assistance of the United States Department of Agriculture where appropriate should establish minimum standards on size of hatching eggs during any given period (i.e., a general standard of 22 to 24 ounce eggs, reducible, if necessary, to meet a condition of heavy demand for chicks).

6. That the broiler industry seek

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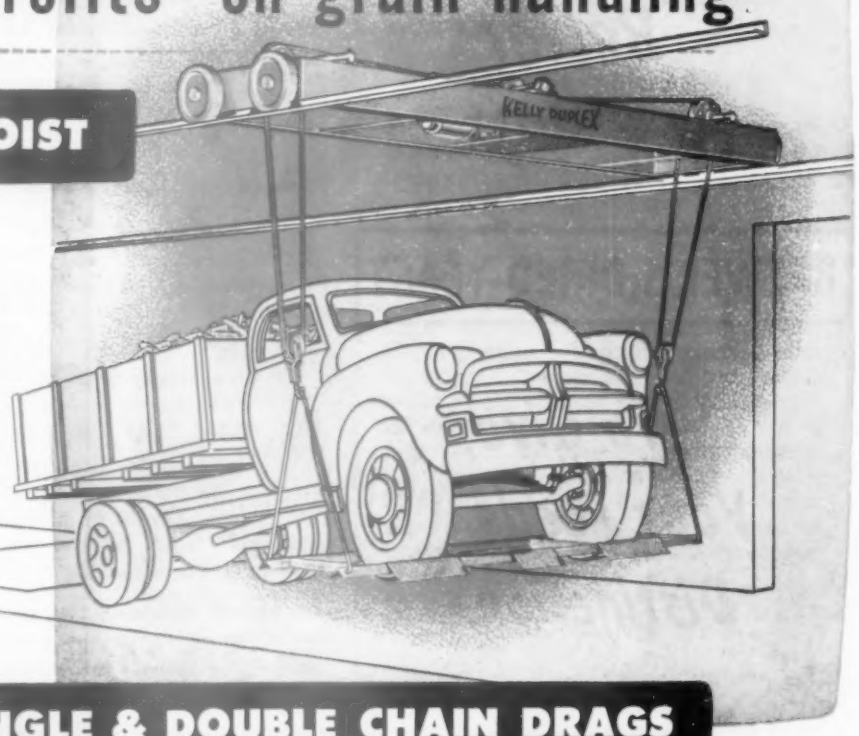

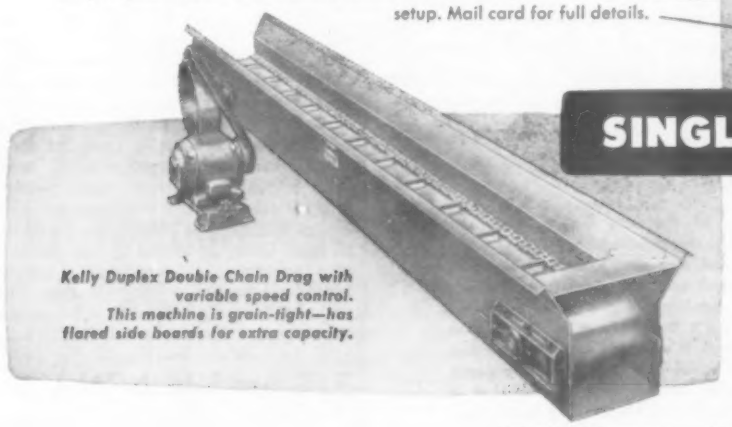

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assistance from the United States Department of Agriculture to find methods whereby dressed bird market quotations will reflect supply-demand conditions. (Whether it is done by a privately operated commodity exchange, by daily or hourly teletype communication among processors or by the USDA's market reporting service, more accurate and more up-to-the-minute information on dressed bird prices is essential for a healthy broiler industry.)

The subcommittee invites everyone interested in the welfare of the poultry industry to give serious consideration to these suggestions.

COMMITTEE ACTION

Further, the subcommittee has taken the following actions, based on its findings:

1. The subcommittee's first action was to sit down with representatives of the leading primary breeder hatcheries to encourage voluntary adjustment of baby chick supplies. An executive session hearing was held in Washington, August 1, 1957.

All concerned were eager to cooperate and exchanged information and suggestions freely; but because of the highly competitive nature of the breeder hatchery business, it became obvious that voluntary adjustments in broiler chick production are extremely difficult.

2. Simultaneously, the subcommittee contacted leading feed manufacturers, urging them to take aggressive steps to adjust broiler supply to demand.

The American Feed Manufacturers Association contacted its members in July, 1957, urging a slowdown in expansion of broiler plants. Several leading feed manufacturers voluntarily instituted a national campaign for supply adjustments and cutbacks in the fall of 1957; and it is the opinion of the committee that this voluntary effort was a healthy influence in the broiler industry picture in the first half of 1958.

3. A complete transcript of the hearings and this report have been forwarded to the Department of Justice with a request that the Department study "integration" practices now existing in the poultry industry and report back to the committee its views on the legality of such practices under existing antitrust laws.

4. A complete transcript of the hearings and this report have been forwarded to the House Committee on Agriculture and the Senate Committee on Agriculture and Forestry with a request that hearings be scheduled as soon as possible on any pending legislation that might tend to help the poultry industry "achieve home degree of stability ". . . so that those who produce and market poultry can enjoy a good living." (Hermon I. Miller, Poultry Division, Agricultural Marketing Service, USDA, p. 10, hearings.)

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Centennial Reports Increase in Net Income in 1957-58

SEATTLE — An increase of more than $100,000 in consolidated net income is reported by Centennial Mills, Inc., Seattle, in its 69th annual report to stockholders. Consolidated net income for the year ending June 30, 1958, is reported at $196,236.21, compared with $91,677.87 for the year ending June 30, 1957. Net income per share is reported at $1.28, compared with $.59 in 1957.

The profit for the year reflects operating earnings of $165,553.90 and non-recurring earnings of $31,683.31, Moritz Milburn, Centennial president, said in the report. The latter category included substantial profit from the sales of grain elevators at Waterville, Brewster, Mansfield, Douglas and Withrow, Wash.

Elevators at Paha, Tokio and Ralston, Wash., also were sold, the Granger (Wash.) Feed Mill was purchased from Centennial by the Washington Cooperative Farmers Assn. in February. The loss from this latter transaction was substantial, Mr. Milburn said, and nearly offset the profits resulting from the sale of the elevator properties. The Granger plant, he said, although profitable during the first few years of its operation, had more recently operated consistently at a loss. With the disposal of the Granger mill the program involving the sale of properties operating at a loss was completed, Mr. Milburn said.

Net sales of flour, formula feeds and grocery products totaled $30.547,-552.46, up from $25,590,843.40 to within $137,920.62 of peak sales during 1949.

The volume of domestic flour sales remained substantially unchanged, except that it reflected the additional business which came to the company as a result of purchasing the Milton-Freewater plant. Feed sales were substantially lower as a result of terminating company operations at Granger last February and at Bozeman and Missoula, Mont., in May, 1957. Bad debt writeoffs were again disappointingly high at $194,515.30 due at least in part to the generally unprofitable experience in turkey raising in Washington and Oregon, Mr. Milburn said.

The net plant account stood at $3,814,023.73 on June 30, 1958 as compared to $4,199,347.03 for the corresponding date in 1957. Expenditures during the year included a bulk flour installation at Crown Mills which has been in use continually since its completion and the expansion of bulk feed facilities at that plant where 50% of the formula feed volume now leaves the mill in bulk form. In order to haul these products to the farm it was necessary to purchase a fourth bulk feed truck for that location. The total of funds spent for plant account at Crown Mills came to $188,872.08.

3 Firms Join AFMA

CHICAGO—Three firms have been announced as new members of the American Feed Manufacturers Assn. They are: W. A. Davis Milling Co., High Point, N.C.; Paul and Vincent, Ltd., Dublin, Ireland, and Woodward & Dickerson, Inc., Philadelphia, Pa.

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Vol. V ★ A SERIES FOR SCIENTISTS AND EXECUTIVES OF THE FEED MANUFACTURING INDUSTRY ★ No. 10

New Work Stresses Lack of Methionine in Casein

Recent assay tests with casein show a highly variable content of methionine in this milk protein. Addition of DL-methionine to casein used in the nutrient media permitted normal growth of the test organisms in microbiological assays. These results show that even a quality protein can vary considerably in this essential sulfur amino acid. Other protein sources used in feeds have similar wide variations in methionine content. U.S.I. feed-grade DL-methionine supplement should be added.

New Illinois Plant to make MOREA® Pre-Mix

Increased demand for MOREA Liquid Feed in the Midwest has brought approval of plans for a new MOREA pre-mix plant at Tuscola, Illinois. The new liquid feed facilities will be part of the multi-million dollar chemical plant of U.S.I. Ethanol, the vital "hydrogen donor" ingredient of this patented feed for ruminants, is produced at Tuscola. Other ingredients of the pre-mix are urea, phosphoric acid and trace minerals. Local mixer-distributors buy the pre-mix and blend it with molasses to make MOREA liquid feed. This modern feed saves labor and produces well-marbled meat with less waste cover fat. Mixer-distributors are now being appointed. For information, write U.S.I.

Worthwhile Reading

A method for deriving a least-cost broiler feed formula is described in Production Research Report No. 20 of The Agricultural Research Service. This valuable 40-page report is available at 25¢ from The Superintendent of Documents, Government Printing Office, Washington 25, D. C.

New Secrets of Vitamin E Functions in Feeds Gradually Being Discovered

This Fat-Soluble Nutrient Has Many Vital Uses

Many different livestock maladies are caused by lack of enough vitamin E in feeds. But just how this chemically complex vitamin works is still a matter of much speculation. Its use in feeds provides definite prevention of enlarged hock disease in turkeys, crazy chick disease in poultry, white muscle disease in calves, stiff lamb disease, yellow fat disease in mink kits and a similar hemorrhagic disorder in poultry.

Vitamin E supplement for minks is usually essential to produce healthy growth.
Photo Courtesy Rockledge Farms

Poultry Breeds Vary in Needs for Methionine

A series of recent experiments showed that one poultry breed produced five times greater growth response than another to addition of methionine in a standard ration. Crossbred birds also showed variations in response to a standard amount of methionine feed supplement. This indicates that adequate DL-methionine should be used in rations to meet the variable needs of different breeds of poultry.

Improves Hatchability

Many other effects—such as improving turkey egg hatchability, decreasing oxidized flavors in milk and milk products, and prevention of muscular degeneration in many kinds of animals—are also considered in adding vitamin E to feeds.

Recent research shows some puzzling inter-relationships of vitamin E with other feed ingredients and chemicals. Selenium, for example, an element that is poisonous except in minute quantities, has shown a vitamin E sparing action in certain feeding trials. Methionine, niacin and phosphorus have also been shown to be essential for best results in feeding vitamin E to livestock for control of certain disorders.

Stable Source of E

Animals on good, green pasture seldom lack vitamin E. But the potency of vitamin E in many other natural sources of this nutrient is highly variable, particularly after storage or artificial heat drying. Some forms of vitamin E, of which there are many, act as an anti-oxidant in feeds. If used up in this function, they cannot provide full vitamin E values.

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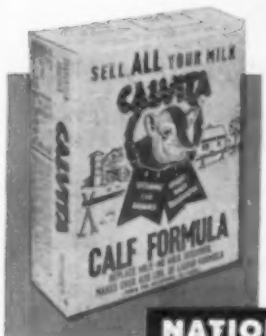

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Bright Future Seen For Louisiana's Poultry Industry

NEW ORLEANS—Louisiana poultrymen are in an enviable position from the standpoint of geographical location, markets and natural resources to take advantage of a rapidly expanding new agricultural enterprise in the South.

This was the general picture presented by speakers and panelists who appeared before the annual convention of the Poultry Industries of Louisiana, Inc., recently in New Orleans.

"This has been perhaps the best convention we have held in Louisiana," says Clyde Ingram, executive secretary and treasurer of the PIL, explaining that this is the first meeting of the new organization, successor to the Louisiana Poultry Improvement Assn. Membership in the new organization has been extended to all segments of the poultry industry in the state.

Under a convention theme, "Problems Do Not Have to Be Feared; They Are Only Here to Be Understood," speakers and panelists identified the changes now rapidly taking place in the industry, pointing up problems such changes are creating.

Among the problems discussed were the need for more efficiency in production and management, larger units of production, more technical know-how, better markets and product promotion and the inevitable subject of integration.

O. H. Green, Spartanburg, S.C., treasurer of the American Poultry & Hatchery Federation, told the group of the unlimited opportunity now looming on the horizon for the South's poultry industry. "But," he warned, "for those who think only in terms of today, yesterday and last year, that opportunity is going, going—gone!"

Senator Speaks

Highlighting the final general session was an address by Senator Allen J. Ellender (D., La.). "Agriculture has become the most misunderstood segment of our national economic life," Sen. Ellender said. "Insofar as poultry production is concerned, too many people still entertain the long-outmoded picture of poultry production as being a field anyone can enter."

Detailing the problems faced today by agriculture, the Senator said that "the average American consumer of farm products still believes that a major portion of every dollar he spends for food finds its way into the pocket of the farmer.

Public Relations Need

"In my opinion, American agriculture stands in dire need of a public relations campaign, a campaign based upon truth, designed to overcome the misstatements and outright falsehoods concerning our farmers, which have been spread far and wide."

He said that the price of steel or other metals may go up, but consumers do not blame the "crew which mines the ore." This is not the case in agricultural products, he pointed out, when farmers are blamed for price rises.

"According to figures of the U.S. Department of Agriculture, poultry farmers during 1957 received only 54% of the food dollar spent by the consumer for poultry," Sen. Ellender disclosed. "Yet it is still you, the producers, who get the blame from the housewife when the price of poultry goes up."

Sen. Ellender urged the poultrymen and other producers of food and fiber to get across to the consumer that "the great bulk of the price they pay for food results from marketing charges, not from high prices at the farm. Included in these charges is the cost of that air-conditioned supermarket, the cost of the nice parking lot, the price of the soothing music. Part of the price of chicken today includes the extra cost of plucking, cleaning, disjointing and packing the bird—the built-in maid services," he said.

Cost of Convenience

He explained that conveniences and gains in newer and modern marketing are necessary, but that it may be a good idea to let the housewife know "that she, too, is to blame partly for high prices" for the marketing conveniences she demands.

Touching on vertical integration, Sen. Ellender said that "vertical integration, kept within proper bounds, can be useful." However, he warned that "once a firm contracts with a producer for a given number of birds and, in effect, binds that producer to purchase feed and supplies from no other source, then to my way of thinking, the danger sign goes on."

He said that he wants to see poultry production "remain what you folks have made it today, a thriving, growing business with its control in the hands of the producers, not some giant corporation hundreds or thousands of miles away. I want to see poultry production grow and expand, with that growth and expansion based upon the sound management decisions of the individual men and women, not the cold, impersonal decisions of some anonymous corporate employee. I want to see poultry improvement, both in breeding and production, arise from the state colleges, working hand-in-hand with the extension service and the Agricultural Research Service of the USDA.

"I do not believe," Sen. Ellender stated, "America wants or can, indeed, survive the concentration of the production of our very lifeblood, food and fiber, in the hands of a few giant corporations."

New Officers

Officers and board members elected during the final business session are Truett Sledge, Hammond, president; J. H. Johnson, Alexandria, vice president; Mr. Ingram, executive secretary and treasurer, and Stella Jones, assistant secretary, both of the extension service, Louisiana State University.

Board members are Dan Durham, Hammond; W. L. Hunter, Coushatta; Charles Ivey, Independence; Cliff Conine, Natchitoches; Dr. A. B. Watts, LSU; Charles O'Neill, New Orleans; Spencer Jones and C. B. Sledge, Hammond; J. R. Heflin and Jess Loyd, Shreveport; M. B. Hunter, Coushatta; M. L. Laing, Alexandria; Jim Hedrick, Shreveport, and R. J. Tricou, Jr., New Orleans.

Kansas City Club Holds Golf Outing

KANSAS CITY — About 30 prizes were awarded for golfing and indoor sports at the outing of the Kansas City Feed Club held at Hillcrest Country Club recently.

Leo Michelis, International Milling Co., won the low gross honor, while an award for the high score went to Wayne Schackman, Thompson-Hayward Chemical Co.

The prize for low putts was won by M. A. McClelland, M. A. McClelland Co., and for high putts by Robert Cree, Thompson-Hayward Chemical Co. Richard Schoop, Albers Milling Co., was recognized for the highest total on any hole.

About 75 were present at the dinner when the prizes were awarded by L. E. Cox, Bemis Bro. Bag Co., president of the club.

PROVED ON-THE-FARM VICTOR FEEDS

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Grain Bank Operators Advised To Check on Law

ST. LOUIS — Feed mill operators have been reminded that in some cases state grain warehouse laws may not permit the type of "grain bank" operations which some elevator and mill owners have been carrying out.

The grain bank technique, a growing custom milling practice in some areas, is a system where a mill with elevator capacity accepts feed grain from the farmer and holds the grain in storage until the farmer needs it for feed, at which time the grain is ground and mixed with concentrate.

Practices and problems in grain bank operation received an extensive discussion at the recent convention of the Grain & Feed Dealers National Assn. (Feedstuffs, Sept. 13.)

In this connection, E. G. Cherbonnier, St. Louis, the association's feed advisor, recently included some information on the grain bank in an association bulletin.

He said it should be remembered that in some states, warehouse laws may not permit the type of operations described by several persons at the GFDNA feed session.

Also, it was pointed out, some dealers may be doing this in an "informal way," which may mean holding the grain without issuing a warehouse ticket when the law in that state requires it.

An association committee has been appointed to study the grain bank program. One purpose is to be sure that millers and elevator operators are not violating a law.

In his summary of the advice given by grain bank operators in the GFDNA feed session discussion, Mr. Cherbonnier mentioned these points:

1. Check your state warehouse laws.
2. Have your bookkeeping absolutely accurate.
3. Establish a standard grade for each feed grain so that the farmer has confidence in what he hauls back to feed.
4. You can't do all this for nothing. Be sure to make a proper service charge in addition to grinding and mixing.

General Mills Builds Bulk Plant in Oregon

COOS BAY, ORE.—Opening of a bulk feed plant is scheduled at Coos Bay by General Mills, Inc., as soon as storage tanks arrive and can be installed, according to D'ck Johnson, area representative for the company.

The plant will be located at the north end of Central dock, where a 36 x 42-ft. concrete block has been poured to accommodate the tanks. "Six metal tanks of 10 tons capacity are due to arrive soon, and can be put into use quickly," Mr. Johnson said.

Sales of bulk feeds will continue to be handled through dealers. Unloading the feeds into the tanks and delivery to farmers will be handled under a contract with Ray Glass, who has obtained a pneumatic bulk truck for this purpose, according to Mr. Johnson.

Two Washington Feed Companies Combine

SUMAS, WASH.—The merger of two Washington feed mills was recently announced by the owners, Cap Galloway of the Sumas Feed & Milling Co., and Peter Elenbaas, Elenbaas Co., Inc., Sumas and Lynden, Wash.

Mr. Galloway has for the past 20 years operated a feed business in Sumas, and a mill in Everson for the past four years. He will now be associated with the Elenbaas Co. as its field representative.

The buildings of Mr. Galloway's mill in Sumas were purchased by Mr. Elenbaas, and the Everson property leased.

The Sumas Feed & Milling warehouse will be closed and stock transferred to the Elenbaas Mill. Brands of both companies will be stocked at the Everson location for the convenience of customers living in that vicinity.

Mr. Galloway announced that grain which has been placed in storage by customers at either Sumas or Everson warehouses will be transferred to the Elenbaas mill in Sumas.

For the past year the Elenbaas firm has been occupied with a remodeling program. When complete, its Sumas mill will have ample production capacity to accommodate the combined tonnage of both businesses, and its grain and feed mixing operation will be one of the most modern in Whatcom County, Mr. Elenbaas said.

Piperazine Phosphate Patent to Chemo Puro

NEWARK, N.J.—P. C. Hereld, executive vice president of the Chemo Puro Manufacturing Corp., Newark, announces that he has been awarded U.S. Patent No. 2,850,426 covering the use of piperazine phosphate in feedstuffs. The patent has been assigned to Chemo Puro, which is also sole licensee under U.S. Patents Nos. 2,799,617 and 2,832,783 covering the synthesis and use of piperazine adipate.

According to the U.S. Tariff Commission, said Mr. Hereld, Chemo Puro was the country's largest producer of piperazine salts during 1957. However, he added, the company has just completed an increase in its production facilities for piperazine and its derivatives in anticipation of the animal industry's increased requirements, particularly of piperazine phosphate as a growth promotant in hogs and poultry.

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Ohio Dehy Plant Producing Pellets From Field Corn

NEW BREMEN, OHIO — A new type of pellet feed for cattle, hogs and sheep—made by dehydrating and pelleting green field-chopped corn—is being produced on a custom basis for a growing number of livestock producers here by Bremco Alfalfa Mills, Inc.

According to A. H. Poppe, general manager and president of the firm, and Ralph Maby, plant manager and animal nutritionist, the new process is working exceptionally well and the pellets, handled entirely in bulk, are ideal for beef and dairy cattle, market hogs and brood sows, and both ewes and fattening lambs.

Process Described

Under the initial arrangements, Bremco does the chopping of green corn standing in fields, hauls it to its plant, dehydrates, grinds, pellets and cools the corn, and augers it into a 12-ton holding bin. They then call the farmer from whose field they chopped the corn, stalk and all, and the farmer hauls the ¼-in. pellets home. Bremco receives $25 per ton of dried pellets produced for its services, within a 10-mile radius of New Bremen. Charges are slightly higher for greater distances, said Mr. Maby.

An unusually wet year in that part of Ohio was the main reason for development of this process, according to the Bremco spokesmen. Much of the crop is so late and underdeveloped that it would otherwise cause serious harvesting difficulties.

The firm has submitted the pellets to both the state feed laboratory of Ohio and an independent laboratory, Brookside Farms Laboratory of New Knoxville, Ohio, for analysis.

Feed Analyses

The report from the state laboratory, according to Mr. Maby, showed 7.6% crude protein, 2.6% fat, 18.85% fiber and 32,500 units of vitamin A equivalent per pound. The Brookside laboratory reported 64.82% total digestible nutrients (TDN). The total crude carbohydrate and fat rating was 80.01, and 61.93% digestible nutrients. Total crude protein was 5.25, with digestible protein at 2.89 in this test. Total ash content was 5.34.

Moisture content of the pellets is only 8 or 9%, a factor which permits unlimited storage without danger of spoilage, Bremco reports. Mr. Maby added that one large dairyman in the area, who had considered building a new silo, had the new pellets made instead, storing the pellets in his grain bins like wheat or shelled corn. They are augered or elevated without difficulty, he added.

Results thus far have shown that almost 4 tons of feed can be made from an acre that would normally produce 50 bu. of ear corn.

The Bremco mill has a capacity of 2 tons of the dehydrated corn an hour. New storage bins are being installed. So far, some 15 farmers are keeping the dehydrating equipment busy and there is even a "waiting list" of farmers who want to have their corn pelleted, said Mr. Maby.

At present Bremco is not planning to add any concentrates to the pelleted corn, he said. Next year, the company plans to contract for corn on a planting basis, spaced to provide steady receipt of the green product over a period of several weeks.

PURCHASES MARKET

THE DALLES, ORE.—Ray Flaman, The Dalles, has purchased the Feed Bag Market from Paul Thompson, with the transfer effective immediately. Mr. Flaman has been a partner with his brothers, Bob and Paul, in the Hill Top Market here for the past four years.

E. D. Godfrey

PURINA CONTROLLER—E. D. Godfrey, formerly assistant controller of the Ralston Purina Co., has been named controller with the retirement of P. L. Jacoby, it has been announced by Raymond E. Rowland, Purina president. Mr. Jacoby was controller 15 years before his retirement. Mr. Godfrey joined the firm as a clerk in the mill supply department in 1916. He was later transferred to the cashier's division, and then to the bookkeeping department. Subsequently, he served as manager of the accounting division before being made assistant controller. He is a past president of the National Association of Accountants and a member of the St. Louis Control of the Controllers Institute of America.

Cargill-Nutrena Names Swine Nutrition Expert

ELK RIVER, MINN.—Dr. Francis Wingert, former director of swine research for the University of Maryland, has joined the staff of the Cargill-Nutrena research farm here.

Dr. Wingert has been placed in charge of swine nutrition, housing and management research programs and research farm work with the Pigloo hog raising system introduced this year by Nutrena Mills, feed division of Cargill, Inc.

Dr. Cloy B. Knodt, farm director, said, "Dr. Wingert's extensive research experience in complete pelleted rations, protein levels and their effect on breeding gestation, lactation and finishing, and his evaluation work on newer anthelmintics (worm destroyers) will be of particular value in developing new products, systems and methods."

Dr. Wingert received both his bachelor's degree and doctorate from the University of Minnesota. He taught animal husbandry at the university for four years, and was in charge of veterans' training at the Morris, Minn., West Central school and experiment station for four years. He was appointed to the Maryland position in 1955.

Price Drop Reported For Georgia Broilers

MACON, GA.—Average prices for Georgia broilers showed a decline in August from the previous five-week period and from the corresponding period a year ago.

According to reports from the Federal-State Market News Service, sales totaled 34,318,000 head, an increase of 5.32% over the previous period, and this compares with 29,701,356 for the corresponding period last year.

August farm prices in north Georgia averaged 16.89¢ compared to 18.34¢ in July and 19.70¢ a year ago. Prices f.o.b. plant were 19.75¢, 20.57¢ and 20.68¢, respectively.

Egg Production Expected to Increase in Coming Months

WASHINGTON — The previously reported 10% increase in the number of chickens raised for laying flock replacement this year is noted by the U.S. Department of Agriculture as the principal factor in an outlook for large egg production during coming months.

The USDA's Poultry and Egg Situation report for September said that the flock of potential layers Jan. 1, 1959, will probably be 2 to 4% larger than a year earlier, and that the new flock is likely to lay at a higher rate per bird this fall than a year ago.

Turkeys and Broilers

The report also said that the seasonal price rise for turkeys is likely to be small because of a large late hatch of poults and big storage supplies. For broilers, the outlook is one of continued heavy production and low prices, the report said.

Eggs

With prospective large production of eggs in coming months and the increasing proportion of small sizes laid by pullets, it is unlikely that mid-month average prices after September will rise much if any over the mid-March price of 40.8¢ doz., the report said.

On Sept. 1, the 287 million layers on farms were slightly below a year earlier when 289 million were on hand, but a large number of young pullets will soon raise the total number of layers to a level above last year. Pullets not yet of laying age Sept. 1 were 13 million more than on Sept. 1, 1957, as a result of the large late-season hatch.

Since the 1958-59 flock will have a larger proportion of pullets than its predecessor flock, this will likely reinforce a trend toward higher rate of lay. The report indicates that in the next few months the combined effects of larger flock and increased rate of lay may result in monthly production 2 to 5% above the corresponding months a year ago.

Turkeys

The 78 million turkeys being raised this year are 4% fewer than last year's record of 81 million. Large stocks of turkeys are in storage, however. The total in storage Sept. 1 was 102 million pounds, the largest volume for the date in history.

Although the hatch this year was smaller than the previous year, late season hatchings were higher and the late hatch will result in slaughter supplies for November and later at a higher level than the previous year. In view of these factors there is less chance for the seasonal turkey price rise except as it reflects superior weight and finish of older birds. Holiday supplies will be fully ample to meet demands at little change in price.

Broiler production in 1958 will likely be about 16% over the 1957 production of 1.5 billion birds, the report said. Through the remainder of the year monthly supplies of broilers can be expected to decline relative to the month immediately preceding. At the same time, demand is expected to decline.

The decreasing volume of broilers is not likely to be sufficient to prompt any sustained price increase from the average of early September.

Poultry Group Lauds USDA Poultry Director

CHICAGO — Special acknowledgement was given Hermon I. Miller, director of the poultry division, Agricultural Marketing Service, U.S. Department of Agriculture, by those attending a meeting of the Institute of American Poultry Industries' poultry processing committee here.

Forty six representatives of the poultry processing industry from 22 states and Canada, as well as IAPI staff members, attended the day-long session. Mr. Miller was commended by the committee for his cooperation and that of his department in industry's move toward complete operation under the Poultry Products Inspection Act.

Harold M. Williams, IAPI president, told those present, "It is our purpose to help industry carry out the intent of the inspection act with a minimum of confusion and uncertainty. We want to have a meeting with USDA as to what is important in carrying out the spirit of the Act as Congress intended.

"It is common knowledge that the poultry industry has, on its own, made tremendous improvement not only in wholesomeness, but also in the over-all quality—and at substantially reduced costs."

15% More Turkeys Expected in Canada

OTTAWA—The number of turkeys to be marketed in Canada this year is expected to be 15% greater than in 1957, according to marketing intentions reported by turkey producers on Aug. 1 in a special survey conducted by the Dominion Bureau of Statistics. However, due to a larger proportion of light-weight birds this year, total turkey meat production is not expected to change appreciably from last year.

The output of turkeys to the end of July is estimated at 1,565,000 birds, of which over a million were under 10 lb. live weight. Almost 75% of the birds marketed before the end of July were from eastern Canada, but total marketings for the balance of the year are expected to be almost equal between East and West.

If the turkey marketing intentions are carried out, 45% of the balance of this year's output in the East will be marketed before Thanksgiving (Oct. 13). Marketings from August to December in the West are expected to be in the proportions of 35% and 65% before and after Thanksgiving, respectively.

7% Poultry Increase Reported in Canada

WINNIPEG — Total poultry on farms in Canada on June 1, 1958, was estimated at 82,624,000 birds or an increase of 7% over the total on hand at the same time a year ago, reported the Dominion Bureau of Statistics.

Current estimates for Newfoundland are not available, the bureau said.

Poultry on Farms in Canada June 1

Province—	Hens and chickens	Turkeys	Geese	Ducks	Total
			thousand birds		
Prince Edward Island	745	12	9	6	772
Nova Scotia	1,960	75	2	1	2,038
New Brunswick	1,125	55	4	2	1,186
Quebec	11,310	670	12	46	12,038
Ontario	31,165	1,950	110	130	33,355
Manitoba	6,980	950	42	44	8,016
Saskatchewan	8,300	1,145	50	70	9,565
Alberta	9,800	975	78	90	10,943
British Columbia	4,345	325	11	30	4,711
CANADA	75,730	6,157	318	419	82,624
Total, 1957	71,237	5,242	295	394	77,168

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This year's unusually rainy and humid weather has resulted in heavy outbreaks of Coccidiosis. During this period Dr. Salsbury's Unistat has been fed out to over 40 million birds. Our extensive investigations show that there have been very few if any outbreaks of Coccidiosis in flocks that have been medicated with Unistat.

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Feed Products Division
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ARKANSAS

(Continued from page 43)

tion and, second, the production of a hard pellet when fat is added to the ration.

In University of Arkansas experiments, we usually obtain statistically significant responses from pelleting. Reground pellets usually show an apparent advantage in growth over all-mash controls but these differences are never of statistically significant magnitude.

One of our experiments was to test the value of regrinding pellets and also water-soaking using a standard and a substituted corn-soya diet fed to medium type white turkeys in battery for nine weeks. Barley and oats were substituted for corn pound for pound. When analyzed statistically the only differences we found were between the grains used and between mash and pellets.

When we ground the grains before soaking we obtained practically the same results; i.e., again no significance from soaking:

We found no value from enzyme addition to a low fiber chick diet and little or no benefit from supplementing a practical corn-soya type diet with either pepsin, lipase or amylase. Our experiments with clarace 300 added to both corn and barley diets fed in battery and in field trial houses failed to produce significant results.

To briefly summarize the foregoing:

1. We can not recommend the use of enzymes on basis of present information.

2. Reground pellets appear to produce growth response over their unpelleted mash controls.

3. There appears a great variation in responses of grains to both enzyme and water-treatments. It would appear that the area of cereal production has some bearing on this problem.

Pellet Hardness

To achieve pellet hardness we must have proper formulation, particle size and conditioning.

In our recent experiments concerning binders in pelleted rations we were concerned with pellet hardness, nutritional value of the binder and fat level in the ration.

Micro-cel is a synthetic calcium silicate, highly inert, designed primarily as a free flow agent. In a battery feeding trial we found that it did influence the hardness of the pellet and that 2½% added micro-cel produced a satisfactory pellet when the diet contained up to 10% added fat.

In a subsequent experiment which in part studied the calcium in micro-cel we found that a 2½% level could be used as the source for supplementary calcium in the diet. The basal diet contained 1.2% ground limestone.

Red dog flour, or wheat red dog, a highly nutritious and digestible by-product from spring wheat flour, has also been widely used as a binder. From the results of a feeding trial here it was concluded that 5% red dog flour was needed to make a satisfactory pellet containing 6% added fat.

In a fourth experiment various levels of dextrin were used as a binder. As with red dog flour 5% dextrin made a satisfactory pellet when the diet contained 6% added fat.

In these three series of experiments the increase of fat increased efficiency and growth. In general, different levels of the binding agent contributed to pellet hardness only.

Therefore on the basis of these experiments it is concluded that hardness of pellet is of no significant nutritional importance. This of course is further borne out with the observations that reground pellets tend to show growth improvements over their mash controls.

THE FEED SITUATION WITH SPECIAL REFERENCE TO SOYBEAN MEAL—Dean Lippert S. Ellis, University of Arkansas: There is every indication that there will be an increasing demand for edible fats and oils in the world market during the coming year.

It appears that cake and meal supplies at reasonable prices in the coming year should be ample.

Other speakers during the conference included Dr. Warren Gifford, University of Arkansas, who spoke about the 37 research projects underway at the station; Lloyd S. Larson, executive vice president of the Midwest Feed Manufacturers Assn., Kansas City, who spoke about coming association activities and introduced the film produced by the association, "New Horizons"; and Henry DeSalvo, Arkansas State Plant Board, who spoke about the new Arkansas feed law which goes into effect Jan. 1, 1959.

Dr. E. L. Stephenson was chairman of the conference.

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A LIVE YEAST CULTURE — for 4-footed animals and poultry. Supplies all known B Complex Vitamins including B_{12} plus other nutritional factors. Easy to add to any formula.
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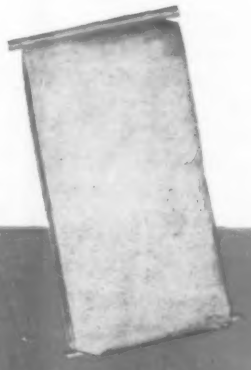

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Mississippi Co-op Launches 56-County Egg Production, Marketing Program

By Special Correspondent

JACKSON, MISS.—The Mississippi Federated Cooperatives has launched an egg production and marketing program which has as its goal a minimum of 50,000 laying hens in each of the 56 counties served by local cooperatives.

Purpose of the development, according to A. E. Beall, assistant general manager of the MFC, is to provide additional sources of income to cooperating farmers by giving them the advantage of integrated purchasing and marketing.

While the program is not yet under way, applications are being received and processed in 21 counties. The plan provides for a minimum of 2,000 laying hens on each farm and a minimum of 50,000 per county "in order to provide on an efficient basis the necessary field service, feed delivery and pickup service."

Feed Program

Feed for the program, Mr. Beall said, will be manufactured in cooperative mills and distributed to the producer through his local cooperative.

"All of the profits realized from the sale of feed and equipment to the producer will accrue to the producer as patronage refunds. The local cooperatives will pickup and deliver the eggs to the central egg stations without direct charge to the producer and the eggs will be graded and sold by the MFC with a charge being made equal to the actual cost of marketing," he explained.

Four parties are involved in the program, according to the MFC official: The farmer-producer, the local cooperative, the MFC and a lending agency—if one is needed.

Here is a summary of the agreements made between all parties in the new egg production program:

"The producer (1) will furnish land, buildings, equipment (feeders, waterers, egg cooler and washer); (2) will be financially responsible for repayment of production loans; (3) will receive all profits from operation with no guarantee against losses; (4) will agree to follow recommendations of county cooperative field service man (size of flock included—2,000 minimum recommended and limit to be recommended by the cooperative); (5) will purchase all supplies (feed, medicine, chicks, pullets, etc.) from county cooperative.

Local Co-op Plan

"The county cooperative (1) will provide a full time field service man; (2) will have 50,000 hen minimum set-up; (3) will provide a refrigerated van-type truck, to pick up eggs, deliver cases, etc.; (4) will furnish to producer all supplies at reasonable prices incident to production; (5) will purchase from MFC all supplies available and incident to egg production; (6) will pick up eggs and deliver to MFC central point for marketing; (7) will agree to follow recommended production program and practices; (8) will maintain all records required and make reports as requested by MFC; (9) will allocate to patrons all earnings as patronage refunds; (10) will reimburse lending agency for loss suffered on any contract up to 10% of maximum production loan for that contract.

"Mississippi Federated Cooperatives (1) will market all eggs and hens produced under this program at actual cost of marketing; (2) will provide necessary supervision to county cooperatives under program; (3) will decide which and how many local cooperatives and producers may be incorporated into the program; (4) will provide adequate facilities for processing, grading and marketing of products; (5) will furnish at reasonable prices all supplies incident to the production and marketing program; (6) will allocate to patrons all earnings as patronage refunds.

"The lending agency will provide all production capital, where needed, to producers meeting financial requirements as to eligibility for credit. The producer will be responsible for housing and equipment. The lending agency providing production capital, or another lending agency, may make the housing and equipment loan, if needed, but such loan is not a part of the four-way agreement."

Cancellation Clause

Also included in the MFC "egg financing and marketing agreement" is a clause stating: "The producer shall have the right to cancel this agreement at any time upon giving 60 days prior written notice of an intention to cancel and paying to the lending agency and the cooperative the entire amount of his indebtedness due to them hereunder." Each producer, if not already a member of the cooperative, submits application for membership in and agrees to

Dr. Frederick Coulston

POULTRY RESEARCHER — Dr. Frederick Coulston, director of experimental pathology and toxicology at the Sterling-Winthrop Research Institute, Rensselaer, N.Y., will speak on "The Development and Evaluation of Coccidiostats" at the Texas Nutrition Conference to be held Oct. 8-10 at Texas A&M College.

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Vitalizer helps guard dairy cows, calves, beef cattle, and sheep against variations in roughage. Colorful advertising in leading farm publications is telling your customers about Vitalizer's unique advantages. Write today for full details.

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Each of these New Englander products can completely fortify the feeds you mix. Ocean-Fresh fishery products and other farm-proven ingredients give these Blends every essential vitamin, the highest quality protein, and a full measure of unknown growth factors—everything your feeds need to boost egg production and hatchability, to produce maximum feed efficiency in broilers and turkeys. The uniformity and potency of these complete Blends are guaranteed. You save money, to say nothing of mixing time and inventory space. So what are you waiting for? Drop a card to our distributor nearest you or write us direct for full details.

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Farm and Feed Salt NEWS

FROM INTERNATIONAL SALT COMPANY, INC.

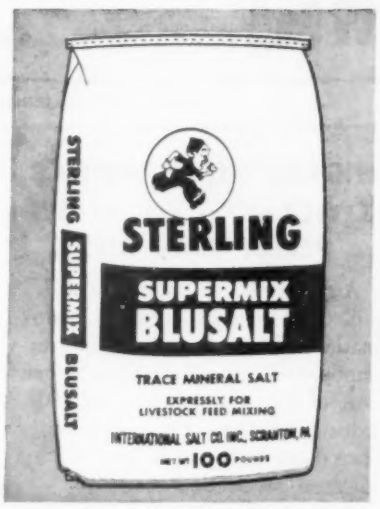
PREMIUM
DAIRY RATION
GUARANTEED ANALYSIS
Crude Protein, not less than.....16%
Crude Fat, not less than..... 4%
Crude Fiber, not more than..... 9%
INGREDIENTS
Linseed Oil Meal, Soybean Oil Meal, Corn Distillers Dried Grains, Corn Gluten Feed, Wheat Bran, Wheat Standard Middlings, Corn Meal, Hominy Feed, Crimped Oats, Crimped Barley, Feeding Cane Molasses, Vitamin A, Irradiated Yeast, Calcium Carbonate, Dicalcium Phosphate,
2% Trace-Mineral Salt (with Manganese Oxide, Sodium Sulfate, Iron Carbonate, Copper Oxide, Calcium Iodate, Cobalt Carbonate, Zinc Carbonate).
Manufactured by
DOAKES MILLING COMPANY
Farmtown, U. S. A.
PREMIUM DAIRY RATION
DAIRY RATION

Did you know?

- Dairying produces 19% of the gross national income from agriculture—more gross income than any other productive enterprise.
- Feeding trace-mineral salt improved the fleece weights of ewes eating a high-moisture-content grass silage during tests at the Kentucky Experiment Station. Ewes receiving trace-mineral salt averaged fleece weights of 8.44 and 8.51 lbs., while groups denied trace-mineral salt averaged 7.98 and 8 lbs.

Before you register your '59 feeds...

Be sure your formula feed tags list trace-mineral salt



Adequate salt and trace minerals are essential if you want your '59 formula feeds to be as efficient as possible. So when you register your feeds this fall, don't forget to include 1% Sterling Supermix Blusalt for your regular line dairy feeds, and 2% Sterling Supermix Blusalt for your premium and test cow rations. Include a Sterling Blusalt product in your swine and poultry feeds, too. Make your rations the best in your sales area!

Each special Sterling feed-mixing Blusalt product contains, in addition to high-quality salt, the now known correct amounts of seven essential trace minerals (manganese, iron, sulfate sulfur, copper, cobalt, iodine and zinc). You won't have to inventory trace minerals separately. The mixing operation itself will be simplified, too.

There's a complete line of Sterling feed-mixing Blusalt products specially formulated for different types of feed. Sterling Supermix Blusalt has the correct trace-mineral balance for livestock feeds. Sterling Gold Bond Blusalt contains *extra manganese* to guard against leg weakness in poultry. Sterling Swine Supermix Blusalt is fortified with *extra zinc* to counteract parakeratosis in swine.

If you'd like specific information on these Sterling Blusalt products . . . or help in preparing your '59 feed formulas . . . contact your nearest International Salt Company sales office.

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MEMBER AMERICAN FEED afma MANUFACTURERS ASSOCIATION INC.

OUTGOING NFIA PRESIDENT HONORED—J. J. O'Connor, Walnut Grove Products Co., Atlantic, Iowa, retired as president of the National Feed Ingredients Assn. at its recent Chicago meeting, and John K. Westberg replaced him. Mr. O'Connor is shown at left in the first picture receiving a plaque from Art Swarzentruber, Vigortone Products Co., Cedar Rapids, Iowa, and Mr. Westberg is shown addressing the convention in the second picture.

abide by the purposes of the cooperative as stated in its bylaws.

The program will be under direct supervision of Claude Smith, employed by MFC after 18 years of poultry experience as manager of the Forrest County Co-op at Hattiesburg. His technical assistant will be Robert Anthony, formerly extension poultry specialist in Tupelo.

Research departments of Mississippi State University and the State Department of Vocational Agriculture will assist in the educational phases of production and marketing in cooperation with the producers, according to MFC.

"There are several other types of egg programs underway in Mississippi and all are serving a useful purpose," said Mr. Beall. "Our greatest need in the state is for a large volume of production of quality eggs at a competitive price, regardless of the program under which they are produced. We believe that our egg enterprise will supplement and enhance the value of existing egg enterprises, rather than serve as detrimental competition."

"The cost of operating the program at the state and county levels will be paid from profits realized from the sale of feed, equipment and other supplies to the producer. After all expenses are paid the net amount remaining will be allocated to all producers based on the volume of business transacted by each producer."

Information Kits

Included in kits available to each prospective producer is detailed information about construction of houses, costs of production and estimated profits.

For a 2,000-hen unit, the house will cost $3,000; cooler $700; equipment $800; and miscellaneous $500. This does not include grading or labor and may vary with the local cost of lumber. It is considered an average.

An MFC chart also lists the cost of pullets at $1.75 each, for a total of $3,500. The feed cost for a production period (based on 4½ lb. per dozen eggs and $80 per ton) is estimated at $7,200, with lights, upkeep, taxes, interest, etc., accounting for another $1,440. Total cost is $12,140.

Income is figured on the basis of $14,000 for 40,000 dozen eggs at 35¢ doz. and $972 from sale of hens for a total of $14,972. This leaves a net of $2,832, or $1.41 per hen.

Total cost of producing a dozen eggs is figured at 27.65¢, based on feed, cost of pullets, depreciation, maintenance, taxes, utilities, interest and other such items.

SPROUT-WALDRON

S W

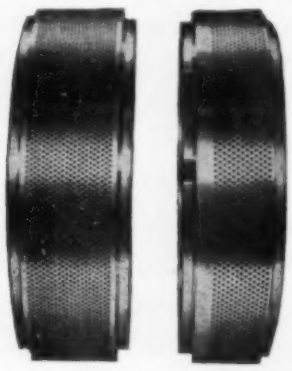
Pointers

for Mixing and Blending • Size Reduction
Size Classification • Bulk Materials Handling • Pelleting and Densifying

Published in the interest of better processing by Sprout, Waldron & Co., Inc., Muncy, Penna.

HIGHER PERFORMANCE LOWER COST WITH NEW PELLET MILL DIES

A new series of high alloy pellet mill dies, mass produced on automatic drilling equipment has been announced. In spite of the higher cost of the superior die materials, price reductions on popular die sizes have been made possible by lowered production costs.



Wide, wide die and regular die.

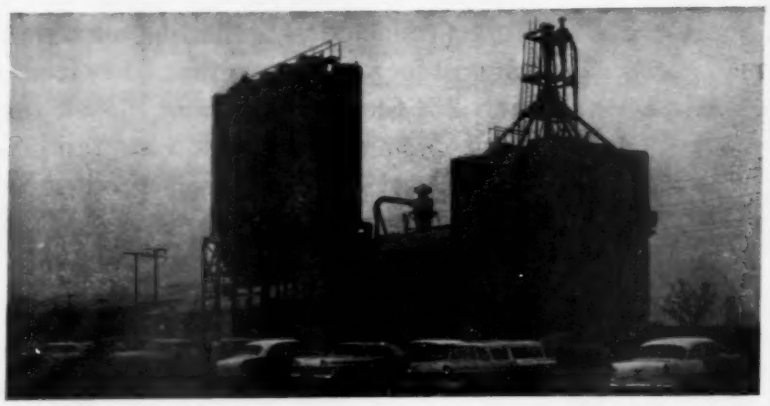
Here are a few of the advantages of the new pellet mill dies:

1. Lower cost per ton for production of quality pellets.
2. Harder and longer wearing.
3. Higher corrosion resistance.
4. Smoother, more perfectly drilled holes.
5. Superior service life.

SW

BIN DESIGN

The fundamentals of bin design are covered in Bulletin No. 142, which is designed for bulk feed as well as poultry and dairy farmers. Prepared as an aid to those planning to switch from bagged to bulk feeds, or for those in the process of modernizing existing storage facilities. FP/111

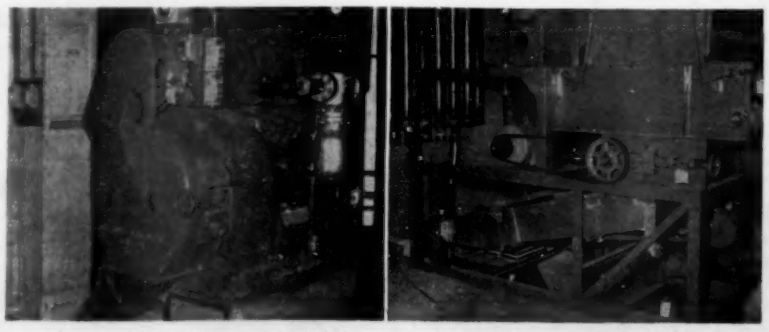


ONE-STORY FEED MILL IS EFFICIENCY PLUS

Protein supplements and other feeds for livestock are being produced in the new one-story Nixon & Company feed plant at .5 to .7 manhours per ton. The $300,000.00 mill in Des Moines, Iowa was designed, engineered, and equipped by Sprout-Waldron.

Bulk ingredients are unloaded through a 40 hp Sprout-Waldron negative pressure Pneu-Vac system. This system is designed to pick up from rail cars, trucks, or from the concrete dump hopper pit. These bulk ingredients are then distributed by the pneumatic system into any of the seven 40 ton bins.

A manual push-button type control panel is connected to a central two ton hopper scale situated among a cluster of bulk bins which serve the scale through inclined screw feeders. Key equipment in the plant consists of a Sprout-Waldron 2-FM horizontal batch mixer and surge hopper combination, a 100 hp Sprout-Waldron Pellet Ace, Model 375 Pellet Cooler, and a 6″ x 60″ Crumbles Roll and Double Deck Scalping Shoe. There are twelve 20 ton bulk loading bins located over the 10′ x 60′ truck scale. Discharge for these bins can go either to trucks or back to the mill for bagging. For the full details on this unusual one-story feed mill, ask for Bulletin F-25.



(Left) S-W Pellet Ace; Right) S-W cooler with crumblizer and scalping shoe.

General Mills Board Meets in California

SAN FRANCISCO—General Mills, Inc., board of directors held its annual field meeting Sept. 22 at the St. Francis Hotel in San Francisco. Each year, the 16-member board normally holds one of its meetings on a field trip, combining company business with inspection of GMI facilities in cities other than Minneapolis, home of the company's general offices.

In previous years, such regional meetings have taken the directors to Kankakee, Ill.; Chicago, Los Angeles, Buffalo, New York, Oklahoma City, Kansas City, Toledo, Detroit, Toronto, Tacoma and Seattle.

Following the board meeting, the directors visited the GMI feed plant at Stockton and the package foods plant at Lodi Sept. 23.

Members of the board attending the meeting were Harry A. Bullis, chairman; Charles H. Bell, president; Walter R. Barry, James F. Bell, A. D. Hyde, Gerald S. Kennedy, Henry S. Kingman, William H. Lang, Putnam D. McMillan, Dean W. Malott, Leslie N. Perrin, F. A. O. Schwarz, D. A. Stevens, Harold W. Sweatt and Edward O. Boyer.

Mr. Boyer, vice president and general manager of GMI Sperry Operations, was host during the California visit.

Distributor Named

CEDAR RAPIDS, IOWA — Truck Equipment Co., Peoria, Ill., is a new distributor for Highway Equipment Co., Cedar Rapids, Iowa, the latter firm announced. Truck Equipment will handle "New Leader" lime spreaders, combination lime and fertilizer spreaders, wide spread lime and fertilizer spreaders, and mobile blenders.

Address of the new distributor is 2021 S. Washington St., Peoria.

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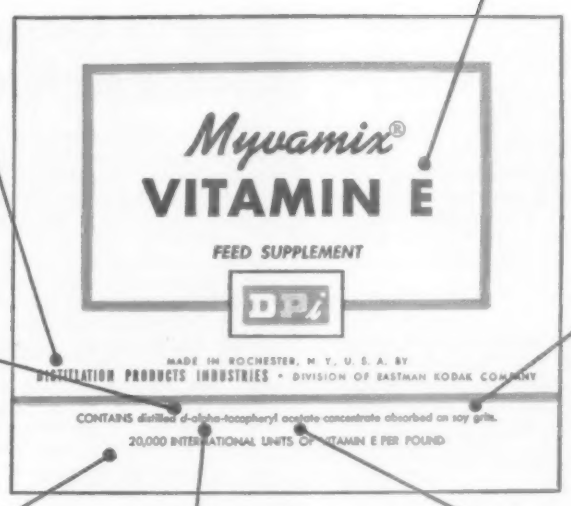
Vitamin E is considered by many authorities to be an essential part of a nutritionally complete diet for chickens, turkeys, dogs, and other animals. We will be happy to send literature references on request.

The "d" means the vitamin E in *Myvamix Vitamin E Feed Supplement* is the same stereoisomer that appears in nature. 1 milligram of *d*-alpha-tocopheryl acetate is equivalent to 1.36 International Units of Vitamin E.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The vitamin E in *Myvamix* is on a dry, non-dusting soy grits base. We use grits instead of meal because they have less fiber, less moisture, more protein, more uniform particle size, and are dusted to remove hulls and powder. All this means a higher quality product, one that's as easy to handle as anything in your mill.

With *Myvamix*, you know exactly how much vitamin E is in your feed. There's a sure 20,000 International Units of Vitamin E per pound. The cost is only a few dimes per ton of feed.

There are at least seven tocopherols which have some vitamin E activity. The most effective biologically is "alpha." That's what is in *Myvamix Vitamin E Feed Supplement*. (Only 10 to 15% of the tocopherols in corn is "alpha"—the rest is "gamma," one of the least effective of all.)

The "acetate" means that the vitamin E in *Myvamix* is really stable. Tests show no loss of potency even after storage in finished feeds for six months at 100 F. The full potency you put in the feed is there when the feed is fed.

Robert W. Caldwell | Dr. Orville Bentley | Dr. Blaine McGowan | J. D. Smith | Dr. Rollin Thayer | Dr. Harry Titus | Dr. H. S. Wilgus

California Animal Industry Meeting Planned Oct. 20-21

FRESNO, CAL.—The speaking program for the 11th annual California Animal Industry Conference has been announced by Robert W. Caldwell, Andersen-Smith Milling Co., San Francisco, conference chairman.

He said more than 400 feed men from California and adjoining states are expected to attend the two-day meeting which is scheduled for Oct. 20-21 at the Fresno Memorial Auditorium.

Speakers for the Oct. 20 morning session include: Terry Coonan, president of the California Hay, Grain & Feed Dealers Assn.; Dr. Chester O. McCorkle, Jr., University of California at Davis, "Agricultural Economics"; Dr. H. S. Wilgus, the Ray Ewing Co., Pasadena, "Progress in Animal Nutrition"; Dr. Charles R. Grau, University of California at Davis, "Nutritional Investigations with the Chick Embyro"; L. E. Ousterhout, University of California at Davis, "Amino Acid Availability of Protein Concentrates to Chicks."

Leading off the afternoon session will be Dr. Orville G. Bentley, recently-appointed dean and director of agriculture at South Dakota State College, "Nutrition of the Rumen." Following his talk will be: "Will Medicated Feeds Replace the Veterinarian?" by Dr. Blaine McGowan, University of California at Davis; "Nutrition of Growing Turkeys," by Dr. Rollin H. Thayer, Oklahoma State University, and "The Poultry Industry of Australia," by Dr. George F. Stewart, University of California at Davis.

A banquet will conclude the Oct. 20 program.

Addresses scheduled for the morning of Oct. 21 include: "The Control of Bloat in Ruminants," by Dr. James M. Boda, University of California at Davis; "Vitamin E and Related Factors in Poultry Nutrition," by Dr. Stanley R. Ames, Distillation Products Industries, Rochester, N.Y.; "Use of Hormones in Livestock Production," by Dr. M. T. Clegg, University of California at Davis, and "Activities of the Bureau of Field Crops," by Harry E. Spires, chief of the bureau of field crops, California State Department of Agriculture.

The afternoon program of the second day will begin with "Mineral Nutrition of Caged Layers," by Dr. Harry W. Titus, Lime Crest Research Laboratories, Newton, N.J. His talk will be followed by: "Influence of Mineral Balance on Basal Metabolic Rate," by J. D. Smith, University of California at Davis; "Evaluation of Alfalfa Hay by Chemical Analysis," by Dr. James H. Meyer, University of California at Davis.

The program will end with two panel discussions, one on large animals and one on poultry. Most of the speakers will serve as panel members.

The Animal Industry Conference committee is composed of the following: Robert W. Caldwell, chairman, Andersen-Smith Milling Co., San Francisco; Bert F. Maxwell, vice chairman, Poultry Producers of Central California, Petaluma; Dolph B. Hill, Sr., Golden Eagle Milling Co., Petaluma; Dr. H. J. Almquist, The Grange Co., Modesto; Hobart R. Halloran, Halloran Research Farm, Modesto; Emery A. Johnson, California Poultry Improvement Commission, Modesto, and John Hooper, J. B. Hill Co., Fresno. University of California representatives on the committee are: Dr. H. H. Cole, department of animal husbandry; Dr. Wilbor Wilson, department of poultry husbandry, and Dr. D. E. Jasper, department of veterinary science

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Program Outlined for Cornell Nutrition Conference Nov. 12-14 in Buffalo

ITHACA, N.Y.—More than 20 animal and poultry nutrition authorities will appear on the program at the 1958 Cornell Nutrition Conference, to be held Nov. 12-14 at the Hotel Statler in Buffalo.

Staff members of Cornell University, Ithaca, and several guest speakers will cover various important and timely aspects of nutrition.

The conference is sponsored by Cornell University in cooperation with the American Feed Manufacturers Assn. Dr. C. M. Chance of Cornell is conference chairman.

After registration the evening of Nov. 12 and the morning of Nov. 13 the program will begin with a talk by Dr. E. I. Robertson, John W. Eshelman & Sons, Lancaster, Pa., chairmain of the AFMA Nutrition Council, on "The AFMA Nutrition Council Serves You." Another talk, "A Look to the Future," will be given by J. A. McConnell, Mansfield, Pa., formerly with G.L.F. and USDA.

Beginning at 11 a.m. D. E. Hogue and Dr. S. E. Smith, both of the Cornell animal husbandry department, will discuss feeding trials and metabolic effects with pelleted rations.

In the afternoon of Nov. 13 two guest speakers will discuss the amino acid requirements of poultry. They are Dr. H. M. Scott, University of Illinois (chicks), and Dr. Hans Fisher, Rutgers University (laying hens). Dr. W. G. Pond of Cornell will discuss the amino acid adequacy of milo.

The afternoon program also includes a talk on brood sow feeding and management by Dr. L. E. Hanson, University of Minnesota; difference in the requirements for maintenance of dairy cattle between pasture and barn-feeding conditions, by Dr. J. T. Reid, Cornell; vitamin E, selenium and other factors related to dietary muscular dystrophy in lambs, by D. E. Hogue, and selenium as a required trace mineral in animal nutrition, by Dr. M. L. Scott, Cornell.

There will be an AFMA social hour at 6 p.m., a buffet supper at 7 and a showing of the AFMA film, "Feed to Food" at 8:30.

Energy Values

The Nov. 14 morning session will include papers on: Metabolizable energy values of fats and fatty acids for chickens, by Ruth Renner and Dr. F. W. Hill, Cornell; special nutritive properties of fats in poultry rations, by Dr. Hill, R. Dam and L. B. Carew, Jr., and utilization of fat by dairy calves, by D. T. Hopkins, Dr. R. G. Warner and Dr. J. K. Loosli, all of Cornell.

After an intermission a discussion on evaluating several systems of feeding dairy calves will be given in a paper by Dr. Warner, Dr. Loosli and H. N. Harrison; further evidence on the vitamin K requirements of chicks, by T. S. Nelson, Cornell, and dietary enzymes in the nutrition of animals, by Dr. L. S. Jensen, Washington State College.

In the afternoon of Nov. 14 a paper by Dr. L. C. Norris and R. M. Leach, Cornell, will cover recent research on the potassium requirement of chicks and turkey poults; T. R. Zeigler and Dr. Norris will review studies on the zinc requirement of chicks and turkey poults; Dr. H. H. Williams, Cornell, will talk about the development of an "in vitro" technique for studying rumen biochemistry and nutrition, and Dr. Loosli will discuss the role of ethanol in ruminant nutrition. A question-answer period will conclude the program.

Cargill Researcher Joins 30-Year Club

MINNEAPOLIS — Dr. J. Wesley Nelson, director of animal nutrition research for Cargill, Inc., has been named the 15th member of the University of Minnesota's 30-Year Club —an honorary organization for persons attending 30 of the university's annual swine feeder days.

The membership ribbon was awarded by Dr. L. E. Hanson, head of the university's animal husbandry department, at this year's feeder day—the 36th of the series.

Dr. Nelson, with Cargill and its feed division, Nutrena Mills, for the past 15 years, was a nutritionist with the university agricultural school for 16 years previously.

STORAGE FACILITIES LOST

FENN, IDAHO—Fire of undetermined origin recently destroyed the $220,000 grain storage facilities of the Union Warehouse and Supply Co-op.

Credit Men Hear Discussion of Bulk Handling

By THOMAS E. LETCH
Feedstuffs Staff

KANSAS CITY — The increasing trend toward bulk handling of farm supplies received attention during a Farm Supply Credit Group meeting held in Kansas City this week under the sponsorship of the National Association of Credit Men and the Midwest Feed Manufacturers Assn.

Lloyd Larson, executive vice president of the Midwest association, outlined the trend in the feed industry. "Estimates run from 16% to 25% of the feed being delivered in bulk today," he said. "Since there is about a 2% increase each year, it is safe to predict that about 50% of the feed will be delivered in bulk by 1975."

Although the trend is there, Mr. Larson pointed out that it is difficult to generalize since each mill and each feed-consuming region has conditions which determine how much or how little feed is moved in bulk.

As factors which are contributing to the expansion of bulk delivery, Mr. Larson included the following: greater use of complete feeds, more use of pelleted feeds, the trend of processing feed closer to the feeder, labor saving on the farm and the financing of bulk dealer installations by feed manufacturers.

Bulk Discount Problems

Mr. Larson took special note of the problem of giving discounts for bulk feeds. "In many cases, feed men point out, it is not entirely justified, and it would have been better to start selling bulk in the first place as an extra service, rather than on a discount basis. When all costs are figured in, it might not always be cheaper for the mill to handle and deliver in bulk. The principal point is the labor saving on the farm, and some farmers have been quoted as saying that they would actually pay a premium for bulk feeds since they require it in their larger operations these days," he declared.

Joe Acuff, general credit manager of the Butler Manufacturing Co., Kansas City, said that no standards have been perfected yet as to what size operation a leader has to have before he can go to bulk delivery.

"Before a dealer goes bulk he will want to be certain that a market is established, since equipment is expensive," Mr. Acuff said, adding that equipment costs can range from $3,000 to $30,000, depending upon the types of equipment needed.

For a dealer to keep a four-ton truck busy, Mr. Acuff said that he should have a volume of from 20 to 60 tons per week.

Leon Baker, general manager of the Snyder Chemical Co., Topeka, Kansas, said that in the fertilizer trade, there is less bulk delivery than for feed. The problems of seasonal distribution and on-the-farm storage are factors which have held bulk delivery back. The different usage patterns of fertilizer make bulk delivery more feasible in some areas than in others, he said.

Another speaker on the panel was R. V. Garrett, Small Business Administration. He outlined the types of loans given by SBA, and stressed that a dealer should first consult his banker for a loan before contacting SBA.

Moderator of the panel was D. H. Elmore, credit manager for Ralston Purina Co. in Kansas City. R. F. Hagans, Pay Way Feed Mills, Inc., chairman of the Farm Supply Credit Group, presided at the meeting.

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What goes up must come down. This is the basic theory behind storage bins. Gravity is a cheap, efficient prime mover. You put grain into a bin, when you need it you open the chute, and the grain falls out, most of the time. Sometimes the grain arches and plugs.

This is caused by the individual grains clinging together and the surface friction overcoming the force of gravity. The usual answer is a blow from a sledgehammer. This damages the bin, takes time and holds-up production.

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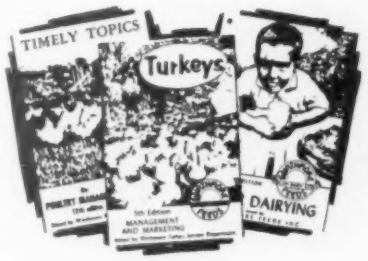

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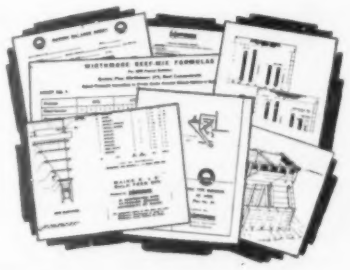

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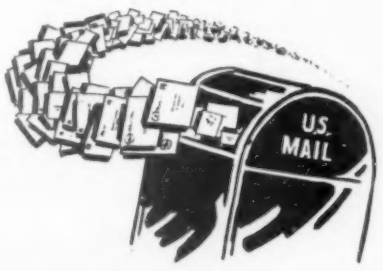

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VISITS ITALIAN MILL—R. M. Jacobson, while touring Europe, visited this small flour and feed mill located at Gimignano, Italy. Teams of white oxen drew carts loaded with bagged flour and grain.

American Visitor Reports on Feed Mill In Tiny Italian City

MINNEAPOLIS—While on a recent European visit, R. M. Jacobson of the Jacobson Machine Works in Minneapolis, ran across a flour mill with feed mill attached.

The mill was located just outside of Gimignano, which is a small "very ancient looking" walled city between Florence and Rome. The town was situated on a high hill, Mr. Jacobson explains, about 10 or 12 miles off the main highway.

"The area we passed through is the home of the famous Chianti wine, and we saw many women with carts full of the plain bottles taking them home to hand weave the straw covers for them," he said.

"The mill was housed in a fairly modern building, the upper two floors of which were occupied by several Italian families. The ground floor contained a number of up-to-date roller mills of European manufacture and the lean-to, located on one side of the main building, contained the feed department with a vertical mixer and a small American hammermill."

Several carts pulled by white oxen were standing outside the mill and were loaded with bags of grain or flour, Mr. Jacobson said.

After going inside, he continued, the men working there were very courteous and pleased that he had stopped.

"When I showed special interest in their hammermill," he continued, "they were very quick to open the housing and show me the inside and try to explain how it worked. Since I didn't speak Italian and they didn't speak English, some problems arose. "They were very proud of their plant."

Mr. Jacobson's visit to the mill was part of a tour of southern Europe in which he and Mrs. Jacobson traveled 5,000 miles by automobile through the countryside and cities. cities.

Prominent Chicago Grain Man Dies

CHICAGO — LeRoy D. Godfrey, member of the Chicago Board of Trade since 1937 and a former member of its board of directors, died Sept. 17. He was 77 years old.

Mr. Godfrey had the unique distinction of having served on the governing body of three of the largest North American grain exchanges; in addition to the Chicago Board of Trade directorate, he also had been a member of the Minneapolis Grain Exchange board of directors and of the Grain Exchange Council, Winnipeg, Man.

Mr. Godfrey's connection with the grain trade dates back to 1904, when he became affiliated with the Van Dusen Harrington organization, Minneapolis. Later he became a partner in the Godfrey-Blanchard Grain Co., Minneapolis, and in 1924 he took over the management of Parker & Graff's Winnipeg Branch. In 1937, he transferred to Chicago to become head corn buyer for the Corn Products Co., Chicago office, which position he held until his retirement from the corcern in 1946. During the 22 years that he was a member of the Chicago Board of Trade, he served on many of its important committees and, for the past two years, was a consultant with the U.S. Department of Agriculture.

Survivors include his widow, Sena; a son, Paul R. Godfrey; a sister, Blanche Watson, and two brothers, Rufus J. and Burt K. Godfrey.

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No. 7214—Magnetic Drums

The Eriez Manufacturing Co. has announced that its new line of permanent non-electric magnetic drum separators will now be available with replaceable outer shell covers and bearings, and with increased magnetic strength. All material to be cleaned by the drum is fed directly

onto the revolving shell; non-magnetic material is discharged first and separately, while tramp iron is held against the shell by stationary Alnico V magnetic castings, internally mounted, until it passes beyond their magnetic field. Wear on the shell results and under the new system, a replacement can be installed quickly and without dismantling any other parts, the company says. Check No. 7214 and mail for details.

No. 7215—Injectable Penicillin

Injectable suspension providing high levels of two antibiotics which offer a wide spectrum of antibacterial activity—penicillin and dihydrostreptomycin—have been announced by Merck & Co., Inc. The products are for use on cattle, horses, calves, swine; for treatment of urinary tract infections, pneumonia, abscesses, infected wounds and shipping fever; and for combatting secondary infections associated with diseases such as mastitis, the company said. For more details check No. 7215 on the coupon and mail to this publication.

No. 7211—Cyclone Attachment

The availability of a range feeding cyclone for use with the Economy Feed Piper bulk truck was announced by Sprout, Waldron & Co., Inc. The unit mounts on the left side of the truck body and swings out far enough to place the flexible tube from the cyclone directly over the range feeder. The controls are directly outside the truck cab and the operator stands beside the discharge tube when operating the truck. The collector is constructed of 16 gauge steel and has a maximum swing of about 60° from the body. For more details check No. 7211 and mail.

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No. 7212—Industrial Fan Bulletin

Bulletin No. I-585, issued by the Day Co., describes the firm's line of industrial fans. Construction features, applications, fan arrangements and selection information are described in the 16-page publication. Also listed are temperature and altitude selection data, capacity tables, dimensions, special arrangements and special types of fans. The company's fans are manufactured in a variety of sizes with capacities ranging from 1,000 to 30,000 CFM and static pressures from 2 to 15 in. Check No. 7212 on the coupon and mail to this publication for more details.

No. 7208—Storage Structure Booklet

An eight-page illustrated booklet on storage structures and related materials handling equipment is available from Sprout, Waldron & Co., Inc. Called Bulletin 207, the booklet contains dimensional and capacity data on a wide range of storage equipment including glass and epoxy lined tanks — square, round, vertical and horizontal units. For further details check No. 7208 on the coupon and mail it to this publication.

No. 7209—Blender With Meter

The Barnard & Leas Manufacturing Co., Inc., announces its new Mix-A-Meter, an added feature that will be standard equipment on all B & L portable formula feed blenders. The indicator shows the quantity of in-

gredients in the batch mixer. Graduated in twentieths, the indicator can provide a flexible measurement for the operator to utilize the equipment to its fullest efficiency, the company says. For more details check No. 7209 on the coupon and mail to this publication.

No. 7210—Exhibit Display

A lightweight 10 ft. exhibit display designed for easy assembly is now available from Federal Displays, Inc. The exhibit is packed in a shipping case 4 ft. by 8 ft. by 3 in. and weighs 110 lb. The unit can be assembled in 15 min. without tools, officials say. Check No. 7210 on the coupon and mail to this publication for more details.

No. 7213—Mobile Floor Crane

The Vanguard Engineering Co. announces the Aero-Crane, a counterbalanced mobile floor crane having an adjustable boom with the hook reaching 48 in. beyond the front edge of the truck. The crane has a 10 ft. high reach and goes down to

1½ ft. from the floor. The running gear is of 10 in. diameter Timken bearing wheels for easy rolling, the company says. The unit is available in several models from 1,000 lb. to 3,000 lb. capacity. For more details check No. 7213 on the coupon and mail to this publication.

Also Available

The following new products have been described in previous issues of Feedstuffs and information about them may still be obtained by jotting the appropriate number on the coupon and forwarding it to Feedstuffs.

No. 7145—Twin-hook hoist carrier, Cleveland Tramrail Division, Cleveland Crane & Engineering Co.

No. 7146 — "Janitorial" clean-up cart, Screw Conveyor Corp.

No. 7147—Aureomycin guide booklet, Agricultural Division, American Cyanamid Co.

No. 7148—Hog programming chart, Ranger Equipment Co.

No. 7149—Baled hay grinder, Barnard & Leas Manufacturing Co., Inc.

No. 7150—Granular phosphate leaflet, Coronet Phosphate Co.

No. 7151—Automatic bag printer, Industrial Marking Equipment Co.

No. 7152—Settler for bag packers, H. L. Stoker Co.

No. 7153—Bulk storage tank, Butler Manufacturing Co.

No. 7154—Cob bin unloader, Thoro-Speed Corp.

No. 7155—Bulk feed storage tanks, Day Sales Co.

No. 7156—Poultry disease guide, Dr. Salsbury's Laboratories.

No. 7157—Automatic flat drop machine for testing filled multiwall bags, St. Regis Paper Co.

No. 7158—Grain fumigant pump, Tryco Manufacturing Co., Inc.

No. 7159—Pneumatic bulk truck with 9-in. screw conveyor, Sprout, Waldron & Co.

No. 7160—Portable pump for grain fumigants, Douglas Chemical Co.

No. 7161—Bulk feed unit, Seco, Inc.

No. 7162—Basic pneumatic handling systems for bulk materials, Fuller Co.

No. 7163—Literature on buildings, Steel Structures, Inc.

No. 7164—Pneumatic bulk trailer, blending device, Seedburo Equipment Co.

No. 7165—Bagging scale bulletin, Richardson Scale Co.

No. 7166—Grain aeration system, Monroe Grain Aeration Co.

No. 7167—Agricultural films, American Cyanamid Co.

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FEEDING CONTEST—Winner of a recent pig feeding contest in Oklahoma City was Harold Key (center), 4-H Club member from Tryon, Okla. The contest was sponsored by KWTV Oklahoma City, and Evergreen Mills, Inc., Ada, Okla. A check for $100 and a trophy are being presented to the winner by Julius Hanson (right) of Evergreen. On the left is Wayne C. Liles, farm director of KWTV. The bulk feed tank in the background was presented as a prize by the Butler Manufacturing Co., Kansas City. There were 3,098 entries in the contest and, according to Mr. Liles, plans are being made for another contest to start Nov. 15 and end Feb. 15.

letin, Sprout, Waldron & Co., Inc.

No. 7169—Belt conveyor, Bunke-Musser, Inc.

No. 7170—Bulk delivery body, Dorsey Trailers, Inc.

No. 7171—Collecting systems for hammermills, Sprout, Waldron & Co., Inc.

No. 7172—Bag-bulk delivery body, Dorsey Trailers, Inc.

No. 7173—Pig and poultry feed unit, J. B. Sedberry, Inc.

No. 7174—Industrial fan bulletin, Day Sales Co.

No. 7175—Packaged gas producing equipment, Southwest Industries, Inc.

No. 7176—Rental program for Tote bins, Tote System, Inc.

No. 7177—Poultry feed fortification product, Borden Co.

No. 7178—Automatic tubular water warmer, Smith-Gates Corp.

No. 7179 — Handbook on copy boards, Wagner Sign Service, Inc.

No. 7180—Bulk shipping container, Ohio Boxboard Co.

No. 7181—Steel buildings in color, Stran-Steel Corp.

No. 7182—Grain drying equipment catalog, Aeroglide Corp.

No. 7183—Broiler, layer coccidiostat, American Cyanamid Co.

No. 7184—Four-ton capacity bulk feed bin, Leach Manufacturing Co.

No. 7185—Automatic bag closure literature, Aeroglide Corp.

No. 7186 — Automatic "tare-out" system, Richardson Scale Co.

No. 7187—Bulletin on pneumatic conveyor design, Sprout, Waldron & Co.

No. 7190 — Feeding trial results brochure, Flavor Corporation of America.

No. 7191 — Trough-belt conveyor, Universal Hoist Co.

No. 7192—Grain roller mill, W-W Grinder Corp.

No. 7193—Vacuum barrel handling unit, Vac-U-Lift Co.

No. 7194—Grain fumigator, Seedburo Equipment Co.

No. 7195—Bulk-bag feed body, Henderson Manufacturing Co.

No. 7196 — Fourteen-hole laying nest, Oakes Manufacturing Co.

No. 7197—Peebles' 50-lb. red whey block, Western Condensing Co.

2 Texas Publications On Broilers Released

COLLEGE STATION, TEXAS — "Market Demands on Broilers" and "How to Select Poultry for Market Qualities" are titles of two publications just released by the Texas Agricultural Extension Service. Authors are F. Z. Beanblossom and Marshall Miller, extension poultry marketing specialists.

"Market Demands on Broilers" is a bulletin which discusses the things consumers look for when buying broilers. It discusses such topics as body conformation, flesh and finish, tears and cuts, uniformity, bruises, breast blisters and calluses, broken and disjointed bones, pin feathers, and external parasites. Each topic is liberally illustrated with pictures.

The other publication is a leaflet designed specifically for 4-H club members who show thousands of broilers and turkeys each year in local, county, district and state shows, but can be equally helpful to anyone else interested in the subject. It discusses factors to consider when judging or selecting live birds. Some of the topics are body conformation, fleshing, finish, uniformity, pin feathers, diseases, external and internal parasites, defects, bruises, disjointed wing and discolorations. It also contains pictorial illustrations.

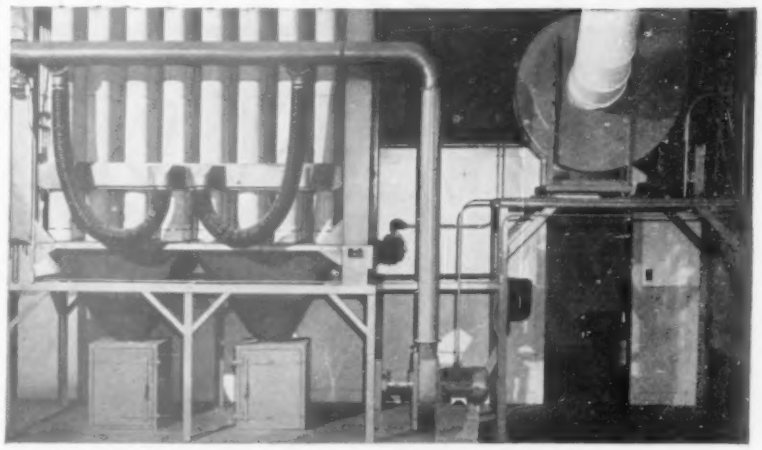
Both publications can be obtained from the Agricultural Information Office, College Station, Texas. The number of the leaflet is L-404 and the bulletin, B-910.

SHEEP STUDY PLANNED

OTTAWA, ONT. — A special government-appointed committee will look into Canada's sheep industry. Hon. Douglas S. Harkness, federal agriculture minister, announced the formation of the committee in the House of Commons recently. It will be the committee's responsibility to determine what steps might be taken to stimulate sheep raising.

DAY

DUST CONTROL NEWS



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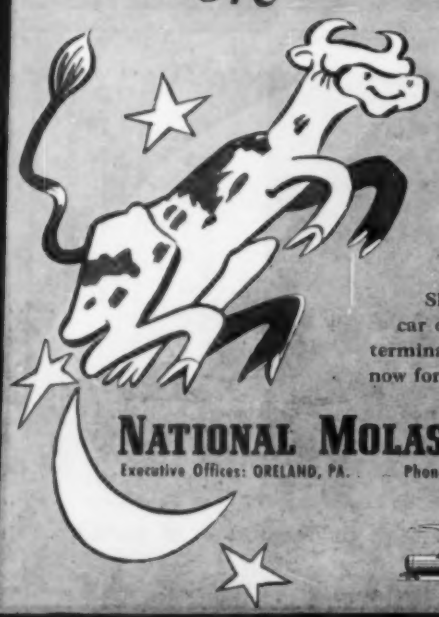

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Should We Restrict Feed in Growing Replacement Stock?

The author concludes: (1) Feed restriction is of little or no value when practiced on Leghorn-type birds. (2) The practice may have some merit in raising broiler strain replacement stock, but the flock owner should not expect miracles

By Dr. R. D. Creek
University of Maryland

EDITOR'S NOTE: The accompanying article is the abstract of a talk given by Dr. Creek at the recent Conference for Poultry Service Men at the University of Maryland, College Park.

Considerable interest and controversy have arisen in the last few years on the subject of restriction of feed for replacement pullets. Advocates of this type of feeding program claim that it results in (1) cheaper rearing costs, (2) larger early egg size, (3) improved livability in the hen house, and (4) overall increased production.

The restriction of feed intake has some merit from a theoretical standpoint, as it is a commonly accepted fact that obesity is detrimental to the general reproductive processes and health in general. Also, the obese individual suffers more from heat than a lean one.

Proper nutrient restriction should retard fattening and delay the onset of egg production, but permit continued skeletal development. Thus, when birds are given free access to layer rations, they are ready to lay larger sized eggs and with a lower incidence of prolapse, etc.

Methods Used

Feed restriction has been attempted by: (1) diluting the rations with fiber, (2) limiting the time the birds have access to feed, and (3) actually limiting the quantity of feed given per day. The latter program (3) appears to have been most successful of those tried to date. Dilution of rations with fiber has little effect other than reducing feed efficiency unless sufficient bulk is presented to actually limit energy-nutrient intake. This mode of restriction has been effective in recent experimental work. Limiting of time which the birds have access to feed is useless as they soon learn to eat hurriedly and maintain their usual level of feed consumption.

Unfortunately, what seems theoretically reasonable does not always prove to be the case. Recent research has shown that restriction saves little or no feed during the growing period because of the longer feeding time required to reach sexual maturity. Also, when the birds are given access to layer rations free choice, they glut and catch up with their full-fed mates in body weight in a few weeks. Even if an advantage in feed consumption were gained by restriction during the growing period, it would be rapidly lost in the hen house.

The other benefits (improved egg size, livability, and production) have not been demonstrated conclusively in published research work.

Any type of restriction program requires extra labor and close, competent supervision. Feeder space must be increased so that all birds will have equal opportunity to eat. Birds of different ages cannot be mixed as the older ones crowd out the younger ones. Debeaking makes it very difficult for some birds to get their share of the feed.

Conclusions

At the present time the following conclusions appear in order:

1. Feed restriction is of little or no value when practiced on Leghorn type birds.

2. The practice may have some merit in raising broiler strain replacement stock, but the flock owner should not expect miracles.

Feed, Grain Marketing Meeting Set in Ohio

GREENVILLE, OHIO—A one-day conference on grain, feed and farm supply marketing is being planned for Nov. 20 at the University of Ohio.

The meeting is open to all members of the Ohio Grain & Feed Dealers Assn., Inc., and any other interested owners and managers, according to an association announcement. It is being sponsored by the department of agricultural economics and rural sociology.

Nearly all of the speakers, panel representatives and personnel assisting with the program are university staff members or representatives of the grain and feed business, according to Dr. John Sharp, university economist who is arranging the program.

He said further details and a copy of the program will be released later.

FEED STORE OPENS

JEFFERSON, ORE.—The Jefferson Feed Store has opened here to replace the Marion-Linn warehouse, which was destroyed recently.

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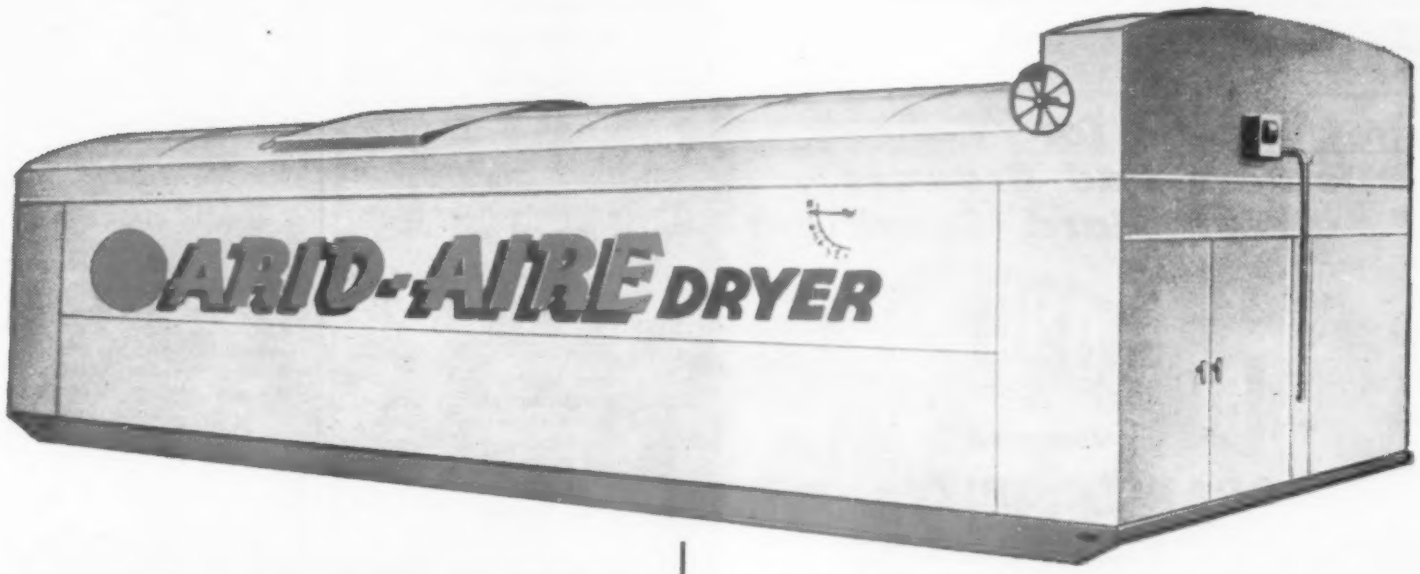

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Reports on Poultry, Livestock Diseases Presented at Veterinarians' Convention

PHILADELPHIA—The role of the veterinarian in assisting livestock owners in planning animal handling facilities and reports on several livestock and poultry diseases were included in the broad range of subjects discussed at the American Veterinary Medical Assn. convention held recently in Convention Hall here.

Veterinarians should assist livestock owners in planning animal handling facilities, Dr. C. T. Mason, Little Rock, told his fellow veterinarians.

Speaking at the section on general practice, Dr. Mason pointed out that beef cattle production has been on the increase as farmers shift idle land to grazing and some dairymen shift operations to beef.

"When animals are crowded, contagious diseases can play havoc in the herds, causing economic loss to the owner and posing a threat to public health. Veterinary assistance in planning for handling ease and sanitation, according to Dr. Mason, can promote herd health and forestall the development of many animal diseases.

Poultry Disease Picture

In another discussion, integration of the poultry industry was at least partially blamed for a poultry disease picture over the U.S. "which has not changed appreciably during the past years."

The association's committee on poultry diseases told delegates the unchanged picture "is probably due to a lessening of disease pressure and, in part, due to a decrease in the number of small flocks as a result of gradual integration of the poultry industry."

Chronic respiratory disease in chickens and sinusitis in turkeys are the most prevalent disease in the U.S. They are also prevalent in Canada, the committee reported.

Progress has been made by veterinary research in understanding the method by which these diseases can be spread by egg transmission of the causative organisms and by contact of infected birds with healthy flocks, the report said.

Poultry disease losses cost farmers an estimated $240 million annually with CRD and sinusitis causing about one fourth of the total, according to veterinary sources.

Extended Lambing

Among the several reports on research now under way was one by Dr. V. L. Sanger, Ohio State University, who said a hormone-like substance in plants under study at Ohio State, may be able to extend the spring lambing season.

This, he said, could reduce the variation in supply and demand at livestock markets.

Scientists at the Ohio experiment station have isolated a highly active, hormone-like substance from Ladino clover named coumestrol. Dr. Sanger said apparently this material is present at times in sufficient quantities to alter the normal reproductive cycle of ewes fed these plants. Ewes on Ladino conceived considerably later than others on bluegrass and birdsfoot trefoil at Ohio.

"It may be," he said, "that by consideration of such factors as strain selection of plants, variations in response by various breeds of sheep, pasture rotation, dry or wet season, winter or summer and the sex of the animals, these plants can be used to influence lamb production, rate of weight gain and growth at the sheep raiser's will."

A subcommittee on mastitis reported to the convention that high losses from the disease are continuing because of "over emphasis on treatment and under emphasis of prevention and control of the mastitis complex."

Much of the present heavy loss of an estimated $227 million annually could be prevented by good herd management, proper milking procedure, veterinary diagnosis when mastitis appears and veterinary treatment of the infected animals, as well as close cooperation between the dairyman and his veterinarian, the report said.

Reports on specific poultry diseases included discussions on blackhead, infectious laryngotracheitis, infectious hepatitis, Newcastle disease, pullorum and fowl typhoid.

Blackhead Still Costly

"In spite of general use of highly publicized drugs for prevention," a report said, "a survey in Iowa by the American Veterinary Medical Assn.'s committee on poultry diseases indicated that blackhead is the most prevalent and costly disease of turkeys in that state."

The death rate from blackhead may run as high as 50% in a flock of infected turkeys, the report said. In addition, most of the surviving birds are seriously affected and do not gain weight or lay efficiently. Prevention by management and sanitation are more effective than preventive treatment, the report indicated.

Infectious laryngotracheitis, a poultry disease responsible for 25% of poultry losses four years ago, is still an important disease in some areas, the committee on poultry diseases reported. According to the report, the apparent failure of some commercial vaccines to produce a protective immunity has caused severe losses in New England and the Midwest.

Signs of infection by laryngotracheitis are so similar to Newcastle disease and infectious bronchitis, the report said, that the committee recommends that sick birds be taken to a poultry diagnostic laboratory for a definite isolation of the causative organism.

Avian infectious hepatitis, a newly recognized disease in the northeastern U.S., has also been diagnosed in many sections of the U.S., the committee said. Vaccination with antibiotics has been fairly successful for periods of from four to six weeks, the report said, and nitrofurazolidone additives in the mash fed to infected birds have also proved to be of value.

Newcastle is widespread and continues to be a constant threat in all concentrated poultry-raising areas, according to the report. It stated that live vaccines commercially available for either mass use on flocks or individual vaccination, cannot be considered as giving solid permanent immunity under all circumstances, the veterinary poultry experts said.

Incidence of pullorum disease and fowl typhoid in young poults has been greatly reduced by the national pullorum-typhoid control program, the report said. Very few pullorum breaks are encountered in the diagnostic laboratories and few turkey breeding flocks are found to be infected by diagnostic tests. In some instances, the committee said, the pullorum breaks in turkeys have been caused by cross infection from pullorum-infected chicks.

The current status of research on several infectious diseases of sheep in the U.S. was reported to the convention by Dr. D. G. McKercher, veterinarian at the Davis Experiment Station of the University of California.

Included in the discussion were bluetongue, virus pneumonia, a new form of enterotoxemia and a contagious form of arthritis in sheep.

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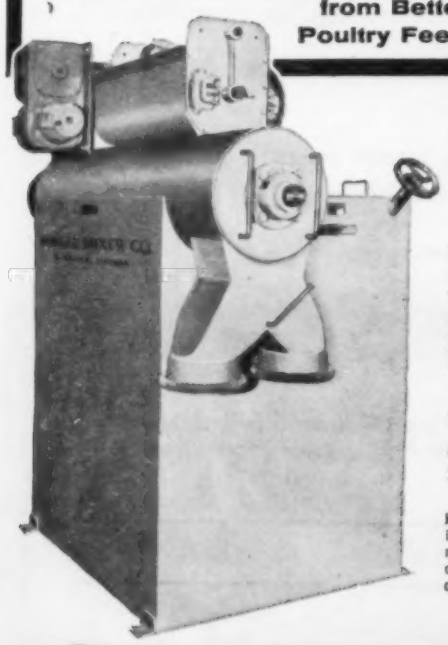

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Now, with the new Wenger Series 750 High Speed Molasses Mixer you can mix from 1 to 5% molasses into poultry feeds with ABSOLUTE ACCURACY and uniformity . . . and up to 50% molasses for other type feeds. Producing at a guaranteed capacity of 15 tons of uniform, even-textured molasses feed per hour, your savings on a 3% molasses level at the current price of corn will vary between $40 and $75 per 8-hour run, dependent upon current price of molasses in your area.

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'Steaming-Up' Practice Has Little Value—VPI

BLACKSBURG, VA.—A method of preparing a dairy cow for lactation known as "steaming-up" seems to be of little value, reported dairy scientists at Virginia Polytechnic Institute.

In the steaming-up procedure, the cow receives grain for about 6 weeks before the expected calving date with the allotment being increased weekly. In the last week of the dry period the cow receives grain equal to 75% of her estimated grain needs for early lactation.

Recent work has shown that this practice apparently offers no distinct advantages as a method of feeding the dry cow, VPI scientists said. At the Illinois Experiment Station the feeding of from 4 to 12 lb. of grain per head daily for a period of 40 to 42 days before expected calving did not significantly increase the yield of fat-corrected milk for the first 84 days of lactation. The incidence or severity of udder congestion was not materially increased by the heavy grain feeding.

In a New York study which was cited, three groups of cows were used over a two-year period to study the effect of feeding no grain, 6 lb. daily, and 15 lb. daily during an 8-week dry period, on the severity of udder congestion. All cows were fed silage and hay. The cows received 10 lb. of grain on the day after calving and the amount was increased 1 lb. daily until they received the amount of grain warranted by their production. In this study, level of grain feeding during the dry period had little effect on severity of udder edema at calving; heavy grain feeding immediately after calving did not seem to increase edema; high-producing cows seemed to have more udder congestion than low producers; udder congestion was no worse in fat cows than in thin cows; and the trouble seemed to be inherited since cows tended to have the same amount of edema year after year regardless of the type and amount of feed eaten.

VPI specialists say it seems that the important point is to have the cow in good condition (not too fat) at calving time regardless of feeding.

14-16% Protein Level "Best" Starter Ration

LEXINGTON, KY.—The protein level in calf starter rations should be 14 to 16%, D. R. Jacobson reported following recent tests at the University of Kentucky.

Prof. Jacobson and his assistants used 48 two-day-old Holstein and Jersey calves divided into four groups, with six of each breed. No hay was fed other than that ground and mixed in the ration and limited milk was fed up to 42 days of age.

The group receiving a ration with a 12.1% protein equivalent level produced the best gains—that of 1.29 lb. daily. The group fed at a 15.3% level gained 1.19 lb.; a low protein group, 6.5%, averaged 0.54 lb. daily while a group receiving 9.4% protein gained 1.02 lb. per day.

"Adding Aureomycin increased the average daily gains," Prof. Jacobson reported, "including heart girth, height at withers, starter consumption and feed efficiency at every protein level except the lowest, 6.5%."

He pointed out that feed consumption and feed efficiency values presented trends very similar to average daily gains, namely that the better-doing groups increased amount of feed eaten and utilized it more efficiently according to the type starter they were fed.

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"CARB-O-SEP has enabled us to produce healthier birds at lower costs. We can recommend it to anyone interested in better profits." Reports from other breeders have been equally enthusiastic.

PUT CARB-O-SEP IN YOUR BREEDER MASH— AS WELL AS YOUR GROWER MASH

Here's one blackhead preventive that's safe enough to use to prevent costly outbreaks in valuable breeding birds.

Mix 2 pounds CARB-O-SEP in each ton of your regular turkey breeder mash. This mash should be fed throughout the laying and breeding period. It's another profitable way to serve your turkey feed customers.

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Panel Discussion Draws Capacity Crowd

AVON, ILL.—A panel of Chicago livestock men drew a capacity crowd of 150 for the sixth annual Appreciation Dinner Meeting here Sept. 11. Sponsors of the affair were Dale and Hally Pool of Avon Farmers Elevator and Critic Feeds, Beardstown, Ill.

Dr. Charles Calverly, Critic nutritionist, started the evening's activities with a discussion of trends in beef cattle nutrition.

The panel, moderated by Bill Jones, director of market research for the Chicago stockyards, then took over and each panel member gave a report of market trends.

Following this was a question and answer period which lasted for more than an hour.

Panel members included Lloyd Harrison, buyer for L. W. Budd Co.; Harold Cleal, hog salesman for Chicago Producers; and Harlan Bane, cattle salesman for Walters and Dunbar.

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As mother and 10-year-old Larry trooped in, father looked up from a lapful of newspapers to ask what he'd learned at Sunday School.

"Well," said the lad, "our teacher told us about when God sent Moses behind the enemy lines to rescue the Israelites from the Egyptians. When they came to the Red Sea, Moses called for the engineers to build a p o n t o o n bridge. After they all crossed, they looked back and saw the Egyptian tanks coming. Quick as a flash, Moses radioed headquarters on his walkie-talkie to send bombers to blow up the bridge and saved the Israelites."

"Larry," exclaimed h i s startled mother, "is that really the way your teacher told that story?"

"Well, not exactly," he replied, "but if I told it her way, you'd never believe it."

◆ ◆ ◆

Alfredo Schulze, the abstract painter, sat in the bar and stared at the mass of bottles. "What's the matter?" he was asked.

"It's terrible!" he replied. "Yesterday I found out for certain that I'm not a good painter."

"Then get into another profession . . . "

"Too late. I'm famous now."

◆ ◆ ◆

The wife wanted to do some shopping during the day, so at breakfast she asked her husband for $10.

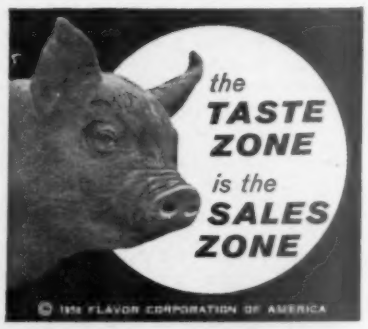
"Money, money, money!" he shouted. "Every day of the week you want more money. If you ask me, I think you need brains more than you need money."

"Perhaps so," his wife agreed, "but I asked you for what I thought you had the most of."

◆ ◆ ◆

On his return from a meeting, the fond wife asked her husband, "How was your talk tonight?"

"Which one," he retorted, "the one I was going to give, the one I did give, or the one I delivered so brilliantly to myself on the way home in the car?"



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● Promotes higher daily gains—improves feed efficiency.
● Cuts costs 75% replacing sugar.
● Masks variations of natural feed ingredients—holds u n i f o r m flavor freshness.

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The Status of Medicated Feed

A review of information on the use of drugs in feeds and the state and federal regulations involved

By Jack D. Price
Texas Feed Control Service

EDITOR'S NOTE: A review of information on medicated feeds and regulation of these feeds will be found in the accompanying article. The author lists drugs used in feeds and points out certain federal and state control requirements. While the state aspects of the discussion apply specifically to Texas, feed men in all areas will be interested in the report. This article is from the Texas Feed Service Report, published by the Texas Agricultural Experiment Station, College Station. Mr. Price is administrative assistant in the Texas Feed Control Service.

The definition of commercial feed, as stated in the Texas Commercial Field Control Act of 1957, includes drugs, medicines and chemicals intended for use or used as an ingredient or component of a mixture of materials used as a feed for animals other than man. Regulation 4 (a) of the rules and regulations under this cited act provides that before a registration is accepted for a commercial feed which contains drugs, the applicant for registration may be required to:

1. Show the name and purpose of the drug.
2. Show the minimum and maximum quantity required to accomplish the purpose.
3. Show the safety of the feed when used according to directions.
4. Furnish a written statement that adequate written or printed warnings and feeding directions will accompany each delivery.

The Food and Drug Administration, U.S. Department of Health, Education and Welfare, has indicated that medicated animal feeds, in view of statutory definitions contained in the Federal Food, Drug and Cosmetic Act, must be regarded as drugs.

Drug or Feed

A unique situation exists in that medicated animal feeds are considered by the federal government to be drugs and by the state as a commercial feed. This overlapping is extremely beneficial to the feeder, the feed manufacturer and the consuming public of the state, since through a system of cooperation, the state and federal agencies exercise control in a manner which permits the use of drugs in feeds only after they have been proved by the drug manufacturer as being safe for use in animal feeds and in many instances both safe and efficacious. It provides further that the use of such drugs is confined to specific amounts with adequate information as to use, and caution or warning statements.

The following drugs are being used in animal feeds. The figures in parentheses after each listing are the levels at which the drugs are to be used in an animal feed represented as the sole ration; further reference is made to the particular animal for which these feeds are intended.

New Drugs

1. 2 Acetyl-Amino-5-Nitrothiazole (0.015%-0.05%)—Turkeys.
2. Arsenosobenzene (0.002%) — Poultry.
3. 2, 4 diamino-5 (p-chlorophenyl)-6-ethylpyrimidine (0.00075% with Sulfaquinoxaline* 0.0075% or .003%-.006% with Sulfaquinoxaline 0.019%-0.02%)—Poultry.
4. Dienestrol diacetate (0.007%)—Poultry.
5. Diethylstilbestrol (not more than 10 milligrams per head per day for cattle and not more than 2 milligrams per head per day for sheep).
6. Nicarbazin (0.01%-0 02%)—Poultry.
7. Carbasone (0.5-01)—Poultry.
8. 2,2'-dihydroxy-3-3',5,5'-tetrachlorodiphenyl sulfide (bithionol 0.05%) and 4,6-diamino-1-(4-methylmercaptophenyl)-1, 2 dihydro-2, 2-dimethyl-1,3,5-triazine hydrochloride (methiotriazamine 0.01%)—Poultry.
9. Glycarbylam'de (4-5 imidazole-di-

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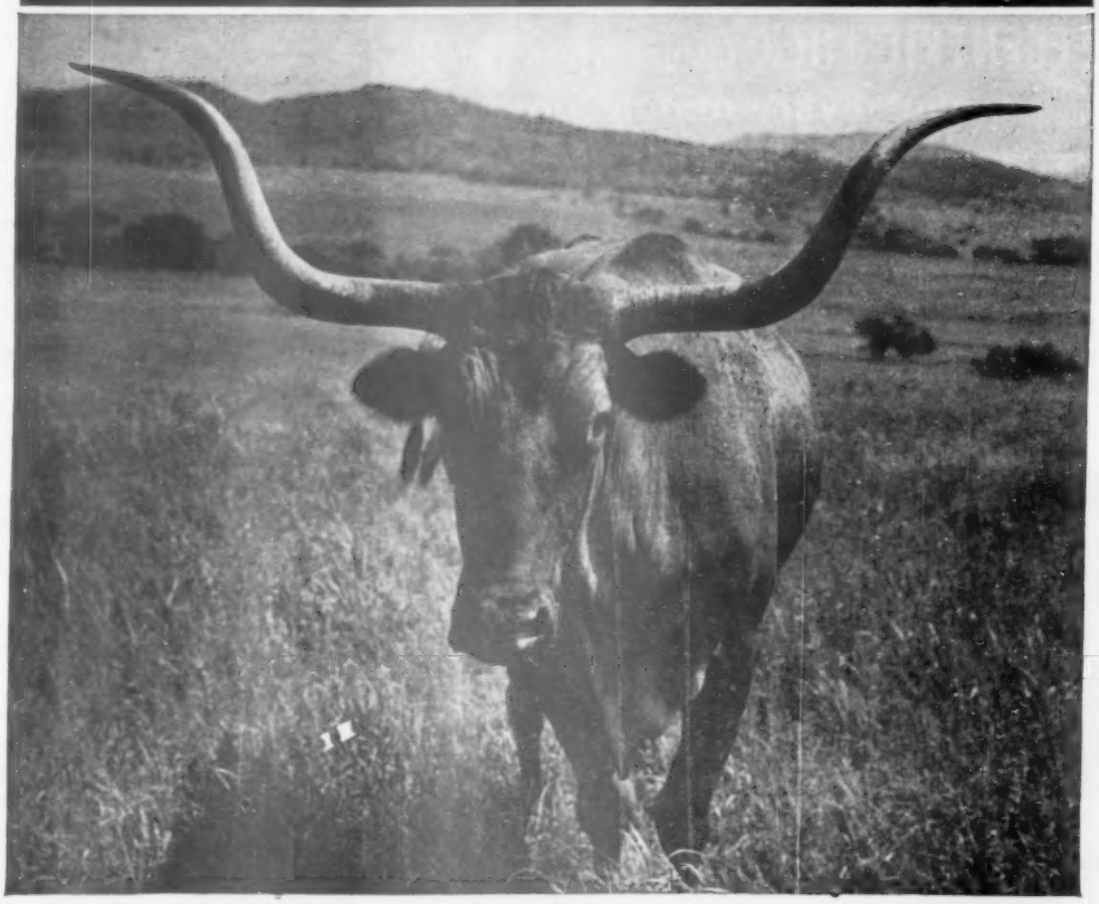

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carboxamide) (0.002%-0.004%)—Poultry.

10. Acetyl (paranitrophenyl) sulfanilamide* (0.03%)—Poultry.

    3,5-dinitrobenzamide (0.025%)—Poultry.

    3-Nitro-4-Hydroxyphenylarsonic Acid (0.005%)—Poultry.
11. Nithiazide (1-ethyl-3-(5 Nitro-2-thiazolyl) urea) (0.125%-0.025%)—Poultry.
12. 3,5-dinitrobenzamide (0.075%-0.15%)—Poultry.

Certifiable Antibiotics

13. Bacitracin.
14. Chlortetracycline.
15. Dihydrostreptomycin
16. Penicillin.
17. Streptomycin (Approved for use in almost all instances at several different levels).

Not New Drugs

18. Acetyl (paranitrophenyl) sulfanilamide (0.03%)—Poultry.

    Dibutyl tin dilaurate (0.02%)—Poultry.

    Dinitridiphenylsulfonylethylenedimine (0.02%)—Poultry.

    3-nitro-4-hydroxyphenylarsonic Acid (0.0075%)—Poultry.
19. Amino nitrothiazole (0.05-0.10%)—Poultry.
20. Arsanilic Acid (0.005%-0.01%)—Poultry and swine.
21. Cadmium anthranilate (0.044%)—Poultry and Swine.
22. Cadmium oxide (0.015%)—Poultry and Swine.
23. Di-n-butyltin dilaurate (0.07%)—Poultry and Swine.

    Piperazine (as the sulfate) (0.055%)—Poultry and swine.

    Phenothiazine (0.29%)—Poultry and Swine.
24. Di-N-butyltin dilaurate (0.0375%)—Turkeys.
25. Di-N-butyltin dilaurate (0.07%)—Poultry and Swine.

    Nicotine (0.03%)—Poultry and Swine.

    Phenothiazine (0-29%)—Poultry and Swine.
26. 2,2′ dihydroxy-5,5′ dichlorodiphenylmethane (0.28%)—Poultry and Swine.

    Nicotine (0.067%)—Poultry and Swine.

    Phenothiazine (0.60%)—Poultry and Swine.
27. Nicotine (0.03%-0.07%)—Poultry and Swine.
28. 3-Nitro-4-hydroxyphenylarsonic Acid (0.0025%-0.0075%)—Poultry and Swine.
29. Nitrofurazone (0.0056%-0.0112%)—Poultry.
    (0.056%)—Swine.
30. Furazolidone (0.00083%-0.022%)—Poultry.
31. Nitrophenide (0.0125%-0.05%)—Poultry.
32. Trimethyl hexadecyl and octadecyl ammonium stearate (0.2 grams-0.3 grams per head per day)—Cattle, Sheep and Swine.
33. 4-nitrophenylarsonic Acid (0.025%)—Turkeys.
34. Oxytetracycline (approved in almost all instances at several different levels).
35. Phenothiazine (0.3-1.0%)—Poultry, Swine and Ruminants.
36. Sodium arsanilate (0.005-0.01%)—Poultry and Swine.
37. Sodium fluoride (0.3%) with sodium sulphate (2.0%)—Poultry and Swine.
38. Sodium fluoride (0.5%-1.0%)—Poultry and Swine.
39. Sulfaquinoxaline (0.005%-0.10%)—Poultry.
40. Iodinated casein (100 mg. per pound)—Swine.
42. Piperazine dihydrochloride (0.18%-0.72% Piperazine base 0.1-0.4%)—Poultry and Swine.
41. Piperazine Phosphate Monohydrate (0.23%-0.92%, Piperazine base 0.1%-0.4%)—Poultry and Swine.
43. Piperazine monohydrochloride (0.13%-0.52% Piperazine base 0.1%-0.4%)—Poultry and Swine.
44. Piperazine sulfate (0.21%-0.85% Piperazine base 0.1%-0.4%)—Poultry and Swine.

*Indicates drugs which under other conditions are not considered new drugs.

Approval Required

An effective, new drug application must be on file with the Federal Food and Drug Administration before feeds containing new drugs can be marketed in interstate commerce. These new drug applications are made effective solely on the basis of safety; therapeutic efficacy is not taken into consideration. The safety data referred to must include compatability studies with the various components of the medicated feeds, including other drugs and methods of assay for the active drug ingredients in order that the identity, strength and stability of the drug may be determined. A finished feed is a new drug as long as the drug used is a new drug. The manufacturer is required to have an effective application, even though its distribution may be confined within a state if the premix is obtained in interstate commerce.

Before registration of a new drug is accepted by the Feed Control Service, a photostatic copy is required of the letter confirming the fact that a new drug application has been made effective. This eliminates the need for repetitious submission of data to the Feed Control Service since it has already been submitted and approved by the Federal Food and Drug Administration. This is not true, however, in the case of drugs and medicines intended for use or used as animal feeds which are manufactured and distributed for sale on an intrastate basis only.

Drug or Antibiotic

Penicillin, streptomycin, dehydrostreptomycin, chlortetracycline, tetracycline, chloramphenicol, bacitracin, feed grade zinc bacitracin and bacitracin methylene disalicylate, and any derivatives thereof are certifiable antibiotics. When drugs subject to certification are added to animal feed, data must be available to show the therapeutic efficacy in addition to the safety. This is the significant difference between a new drug and a certifiable antibiotic. If a new drug is included in a feed containing a certifiable antibiotic, the therapeutic efficacy for the combination must be filed with the Federal Food and Drug Administration prior to the marketing of the product in interstate commerce. The Antibiotic Form 10 is, for all intents and purposes, a new drug application with the additional requirement concerning the therapeutic efficacy of the product.

Drugs classed as "not new drugs" are those which, in the opinion of authorities qualified to judge the safety of drugs, are safe for use in animal feeds. They differ from new drugs which, in the opinion of qualified authorities, are not generally recognized as being safe and for which data concerning the safety are required. Under specific conditions of use and representation, drugs in the class of "not new drugs" may be considered new drugs.

Caution and warning statements, complete feeding instructions and the assay of drugs in animal feeds are of importance since drugs in feeds may result in tissue residues of the animals being fed.

Summary

Three classes of drugs are now added to animal feeds—new drugs, certifiable antibiotics and "not new drugs." The list herein mentions only the minimum and maximum tolerances for these various drugs.

Feed manufacturers should make certain that they are complying with both state and federal regulations when involved in the manufacture of medicated feeds. As pointed out previously, the Federal Food and Drug Administration exercises jurisdiction even though the product is not distributed across state lines, if the drugs are obtained in interstate commerce.

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		Weight	F.E.
Delmarva (Hatchery)			
9 wks. 5 days	V108	3.51	2.52
9 wks. 4 days	VX	3.17	2.49
Georgia (Broiler Farm)			
8 wks. 5 days	V108	3.06	2.26
	VX	3.01	2.26
Alabama (Feeder)			
9 wks. 2 days	V108	3.71	2.27
	VX	3.61	2.26

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CONVENTION CALENDAR

New Listings

For the convenience of readers who scan the Convention Calendar regularly for new listings, those added to the column in the current week appear ahead of the ones which have been entered previously. The following week they will be moved to their proper slot where they will remain until the event is held.

• • •

Oct. 31—Illinois Sheep Day; University of Illinois, Urbana; chm., Dr. George R. Johnson, Department of Animal Science.

Nov. 5—North Dakota Swine Day; Shepperd Arena, North Dakota Agricultural College, Fargo, N.D.

Nov. 7—Illinois Cattle Feeders Day; University of Illinois, Urbana; chm., Dr. George R. Johnson, Department of Animal Science.

Jan. 20-21—North Dakota Poultry Industries Convention; Elks Club, Fargo, N.D.; chm., B. J. Duke, North Dakota Poultry Improvement Board, Bismarck, N.D.

Sept. 13-14—Grain and Feed Dealers National Assn. (work meeting for directors, committees and members), Minneapolis; exec. v. pres., Alvin E. Oliver, 400 Folger Bldg., Washington 5, D.C.

• • •

Oct. 6-7—Seventh Region National Renderers Assn.; Sheraton-Jefferson Hotel, St. Louis, Mo.; sec., R. G. Day, Tulsa Rendering Co., Collinsville, Okla.

Oct. 7-9 — Northeastern Poultry Producers Council Poultry Exposition and Convention; Farm Show Bldg., Harrisburg, Pa.; chm., Alfred Van Wagenen, NEPPCO, 10 Rutgers Place, Trenton 8, N.J.

CALENDAR FOR 1958-59

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Oct. 8-10 — Texas Nutrition Conference; Texas Agricultural and Mechanical College, College Station, Texas; chm., J. R. Couch, Poultry Science Dept.

Oct. 9—Vermont Feed Dealers & Manufacturers Assn.; Agricultural Science Bldg., University of Vermont, Burlington, Vt.; sec., D. C. Henderson, Poultry Department.

Oct. 9-10—Washington Poultry & Hatchery Assn.; Winthrop Hotel, Tacoma, Wash.

Oct. 10-11—Arizona Grain and Seed Assn.; Hotel Westward Ho, Phoenix, Ariz.; sec., Hayden C. Hayden, Box 156, Tempe, Ariz.

Oct. 12-14—Kentucky Poultry Improvement Assn. and Kentucky Poultry Federation; Kenlake Hotel, Hardin, Kentucky; sec., John W. Tuttle, 730 Rose Street, Lexington, Ky.

Oct. 14-15—Virginia State Poultry Federation; Natural Bridge Hotel, Natural Bridge, Va.; sec., P. Paul Williams, 615 E. Franklin St., Richmond, Va.

Oct. 14-16—Association of American Feed Control Officials; Shoreham Hotel, Washington, D.C.; sec., L. E. Bopst, University of Maryland, College Park, Md.

Oct. 15 — Animal Nutrition Research Council; Shoreham Hotel, Washington, D.C.; sec., Irwin Olcott, Dawe's Laboratories, Inc., 4800 S. Richmond St., Chicago 32, Ill.

Oct. 16-17—Michigan Feed & Grain Dealers Assn., Fall Conference; Kellogg Center, Michigan State University, East Lansing; sec., Nevels Pearson, P.O. Box 472, East Lansing, Mich.

Oct. 16-17 — Oklahoma Formula Feed Conference, Oklahoma State University, Stillwater, Okla.; chm., Dr. Rollin H. Thayer, Poultry Science Dept.

Oct. 20-21—California Animal Industry Conference, Fresno Memorial Auditorium, Fresno, Cal.; sponsored by University of California and California Hay, Grain & Feed Dealers Assn.; sec., John Gilmore, 1400 10th St., Sacramento, Cal.

Oct. 23-24—First Annual Poultrymen's Institute; State College of Washington, Pullman, Wash.

Oct. 23-24 — West Virginia Feed Dealers Assn.; Blackwater Falls Lodge, Davis, W. Va.; sec., J. S. Larruck, 408 Prince St., Beckley, W. Va.

Oct. 23-24 — Iowa Seed Dealers

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Assn.; Hotel Fort Des Moines, Des Moines, Iowa; sec., Bob Skinner, 928 Des Moines Bldg., Des Moines, Iowa.

Oct. 23-25 — Nutrition Conference, Alabama Feed Assn.; Alabama Polytechnic Institute, Auburn, Ala.; chm., Merlin T. Bryant, Brundidge Milling Co., North Main St., Brundidge, Ala.

Oct. 24 — Arkansas Poultry Study Day; University of Arkansas Agricultural Experiment Station, Fayetteville, Ark.; chm., R. M. Smith, Poultry Department.

Oct. 30—Nebraska Formula Feed Conference; University of Nebraska, Lincoln, Neb.; chm., Dr. J. L. Adams, Poultry Husbandry Dept.

Oct. 31 — Nebraska Rooters Day; University of Nebraska, Lincoln, Neb.; chm., Dept. of Animal Husbandry.

Oct. 31-Nov. 3 — Florida Nutrition Conference; cruise from Miami to Nassau, British West Indies; chm., J. P. Feaster, Department of Animal Husbandry and Nutrition, University of Florida, Gainesville, Fla.

Nov. 2-5 — National Renderers Assn., Hotel Statler, Washington, D.C.; sec., Miss Jamie C. Fox, 30 N. LaSalle St., Chicago 2, Ill.

Nov. 5—Jersey Chick Assn.; Berkeley-Carteret Hotel, Asbury Park, N.J.; sec., J. C. Taylor, College of Agriculture, New Brunswick, N.J.

Nov. 5-6—Illinois Feed Assn. and Illinois Poultry Improvement Assn.; Armory, Springfield, Ill. (IFA Leland Hotel; sec., Dean M. Clark, Board of Trade, Chicago 4; IPIA, St. Nicholas Hotel; sec., Aubrey Harless, Box 91, Shelbyville, Ill.)

Nov. 7 — Washington Animal Industry Conference; Lower Columbia Junior College, Longview, Wash.; sponsored by State College of Washington, Lower Columbia Junior College and Washington State Feed Assn.; assn. mgr., J. G. Wilson, 814 Second Ave. Bldg., Seattle 4, Wash.

Nov. 12-14 — Feed Production School; American Royal Bldg., Kansas City; sponsored by Midwest Feed Manufacturers Assn.; executive vice president, Lloyd S. Larson, 20 W. 9th St. Bldg., Kansas City 5, Mo.

Nov. 13-14—Cornell Nutrition Conference; Hotel Statler, Buffalo, N.Y.; chm., Prof. Charles Chance, Wing Hall, Cornell University, Ithaca, N.Y.

Nov. 14—Small Mill Short Course; American Royal Bldg., Kansas City; sponsored by Midwest Feed Manufacturers Assn., executive vice president, Lloyd S. Larson, 20 W. 9th St. Bldg., Kansas City 5, Mo.

Nov. 15—Missouri Sheep Day; University of Missouri, Columbia; chm., C. V. Ross, Animal Husbandry Dept.

Nov. 23-25—Western Grain & Feed Assn.; Hotel Fort Des Moines, Des Moines, Iowa; sec., Bob Skinner, 928 Des Moines Bldg., Des Moines, Iowa.

Nov. 30-Dec. 1 — Tennessee Feed Manufacturers Assn.; Noel Hotel, Nashville, Tenn.; sec., Charles H. Warfield, 602 American Trust Bldg., Nashville 3, Tenn.

Dec. 8-9 — Veterinarian-Nutrition Conference; President Hotel, Kansas City; sponsored by Midwest Feed Manufacturers Assn.; exec. vice president, Lloyd S. Larson, 20 W. 9th St. Bldg., Kansas City, Mo.

1959

Jan. 5-6 — Kansas Formula Feed Conference; Kansas State College, Manhattan, Kansas; chm., Dr. Tom Avery, Poultry Department.

Jan. 6-7—Elevator Business Managers Clinic, Michigan State University, Kellogg Center, East Lansing, Mich.; chm., Earl H. Brown.

Jan. 6-8—National Turkey Federation Convention and Exposition; Veterans Auditorium, Des Moines, Iowa; sec., M. C. Small, P.O. Box 69, Mt. Morris, Ill.

Jan. 9-10 — Kansas Seed Dealers Assn.; Hotel Broadview, Wichita; sec., O. E. Case, 609 Wiley Bldg., Hutchinson, Kansas.

Jan. 11-13—Northwest Retail Feed Assn.; Hotel Pick-Nicollet, Minneapolis; sec., W. D. Fleming, 112 Grain Exchange Bldg., Minneapolis, Minn.

Jan. 18-20—Indiana Grain & Feed Dealers Assn.; Claypool Hotel, Indianapolis, Ind.; sec., Fred Sale, 600 Board of Trade Bldg., Indianapolis 4, Ind.

Jan. 26-28 — Southeastern Poultry & Egg Assn., Atlanta, Ga.; sec., Harold E. Ford, 235 E. Ponce de Leon Ave., Decatur, Ga.

Jan. 28-30—American Dehydrators Assn., Shamrock-Hilton Hotel, Houston; exec. vice pres., Joseph Chrisman, Board of Trade Bldg., Kansas City 5, Mo.

Jan. 29-30—Oregon Animal Industry Conference; Oregon State College, Corvallis; sponsored by Oregon State College and Oregon Feed & Seed Dealers Assn.; sec., Russ Hays, 702 Lewis Bldg., Portland, Ore.

Feb. 6-7—Minnesota Turkey Growers Assn.; Leamington Hotel, Minneapolis; sec., A. E. Eisenmenger, 2200 University Ave., St. Paul, Minn.

Feb. 9-10—Montana Nutrition Conference; Montana State College, Bozeman, Mont.; chm., Dr. O. O. Thomas, Animal Industry Dept.

Feb. 11-12 — Feed Mill Production School; Leopold Hotel, Bellingham, Wash.; sponsored by Washington State Feed Assn.; mgr., J. G. Wilson, 814 Second Avenue Bldg., Seattle, Wash.

Feb. 12-13 — Washington State Feed Assn.; Leopold Hotel, Bellingham; mgr., J. G. Wilson, 814 Second Avenue Bldg., Seattle, Wash.

Feb. 13-15—Institute of American Poultry Industries' Fact Finding Conference; Municipal Auditorium, Kansas City, Mo.; Institute of American Poultry Industries, 59 E. Madison, Chicago 2, Ill.

Feb. 16-18—Midwest Feed Manufacturers Assn., annual convention, Muehlebach Hotel, Kansas City, executive vice president, Lloyd Larson, 20 West Ninth St., Kansas City, Mo.

Feb. 22-24—Colorado Grain, Mill & Feed Dealers Assn.; Shirley Savoy Hotel, Denver, Colo.; sec., Olaf Erickson, 714 Cooper Bldg., Denver 2, Colo.

Feb. 23-26 — Colorado Livestock Days; Colorado State University, Ft. Collins, Colo.; chm., Dr. Lamar Esplin.

Feb. 24-25—Virginia Feed and Nutrition Conference; Hotel Roanoke, Roanoke, Va.; co-chm., Wm. G. Ritchie, J. S. Ritchie & Sons, Petersburg, Va., and Paul M. Reaves, professor Dairy Science, Virginia Polytechnic Institute, Blacksburg, Va.

March 1-3 — Ohio Grain & Feed Dealers Assn., Inc.; Neil House, Columbus, Ohio; sec., G. E. O'Brien, 710 N. Ohio Street, Greenville, Ohio.

March 19-20—Oregon Feed & Seed Dealers Association; Multnomah Hotel, Portland; sec., Russ Hays, 702 Lewis Bldg., Portland 4, Ore.

March 19-20—Maryland Nutrition Conference; Shoreham Hotel, Washington, D.C.; chm., Dr. Richard D. Creek, Poultry Husbandry Department, University of Maryland, College Park, Md.

March 25—Distillers Feed Conference; Sheraton Gibson Hotel, Cincin-

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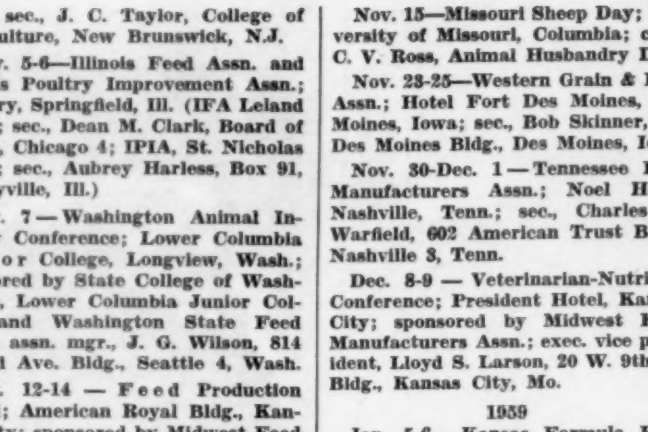

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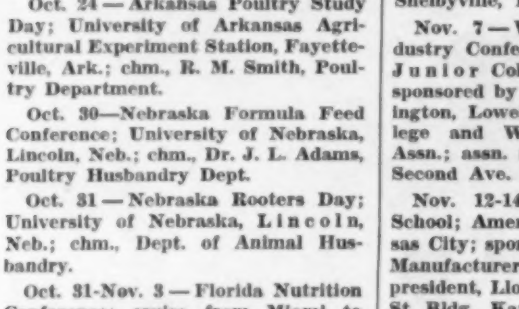

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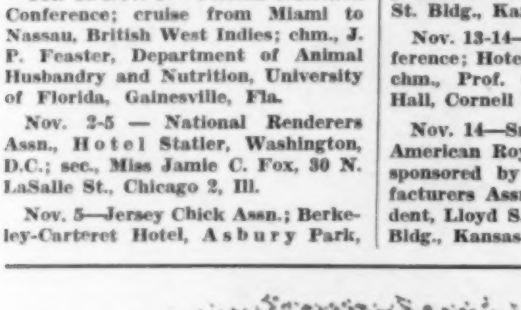

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nati; sponsored by Distillers Feed Research Council; exec. director, Dr. Lawrence E. Carpenter, 1232 Enquirer Bldg., Cincinnati 2, Ohio.

April 12-17—Grain Elevator & Processing Superintendents; Multnomah Hotel, Portland, Ore.; sec., Dean M. Clark, 1120 Board of Trade Bldg., Chicago 4, Ill.

April 30-May 2—Kansas Grain & Feed Dealers Assn.; Broadview Hotel, Wichita, Kansas; sec., O. E. Case, 901 Wiley Bldg., Hutchinson, Kansas.

May 8-10 — Grain Processing Machinery Manufacturers Assn.; Chicago; sec., Raymond J. Walter, 511 Fifth Ave., New York 17, N.Y.

May 11-13—American Feed Manufacturers Assn. Convention and National Feed Industry Show; Conrad Hilton Hotel, Chicago; sec., W. T. Diamond, 53 W. Jackson Blvd., Chicago 4, Ill.

May 15-16—Missouri Grain, Feed & Seed Assn.; Hotel Governor, Jefferson City, Mo.; sec., D. A. Meinershagen, Higginsville, Mo.

June 7-9—Indiana Grain & Feed Dealers Association; Sheraton Hotel, French Lick, Ind.; sec., Fred Sale, 600 Board of Trade Bldg., Indianapolis, Ind.

June 7-9 — Eastern Federation of Feed Merchants, Pocano Manor Inn, Pocano Manor, Pa.; sec., Austin W. Carpenter, Sherburne, N.Y.

July 10-14 — Georgia Feed Assn.; General Oglethorpe Hotel, Savannah, Ga.; sec., Will L. Kinard, 3240 Peachtree Rd. Bldg., Atlanta 5, Ga.

Montana Flour Mills Notes Earnings Decline

GREAT FALLS, MONT. — Earnings after taxes of $185,267 for the fiscal year just ended have been announced by the Montana Flour Mills Co. in its annual report to stockholders. This compares with earnings of $365,476 in the preceding fiscal year, the report noted. Dividends of $1.20 per share, amounting to $146,428.80, were paid last year, compared with dividends of 20¢ per share, amounting to $24,404.80 paid this year.

"In consideration of reduced earnings and the financial burden incident to modernization and rehabilitation of properties and to adjusting plant operations to meet changing conditions, it is the feeling of the directors that the reduction in dividends was necessary to protect long term best interests," C. G. McClave, president and general manager said in his message to stockholders.

"The company has been strengthened," Mr. McClave said, "in that working capital has been increased by approximately $99,000; the ratio of current assets to liabilities has been improved from $3 to $3.28; and additions to plant and other factors have increased book value per share from $43.90 to $45.52.

"The company, like others, has suffered to some extent from the general business slump which has prevailed over most of the past year. It has, however, suffered to a much greater extent as a result of the cumulative effect of actions taken by the government in connection with price support and export subsidy programs. Montana's current wheat quality problem has its origins in governmental price support activities.

"As of the present, the initial steps have been taken to bring Montana back into the ranks of quality wheat producing states."

STORAGE BIN ADDED

WALLOWA, ORE. — Construction of a 38,000-bu. steel storage grain bin at the Wallowa Grain Growers plant is nearing completion. Installation of an auger for conveying the grain from the bin to the main elevators is yet to be completed. The bin is 56 ft. high and 32 ft. in diameter. Installation of a new roof on the mail elevator is scheduled to begin soon.

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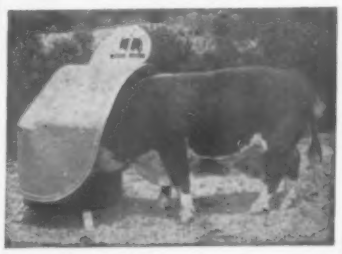

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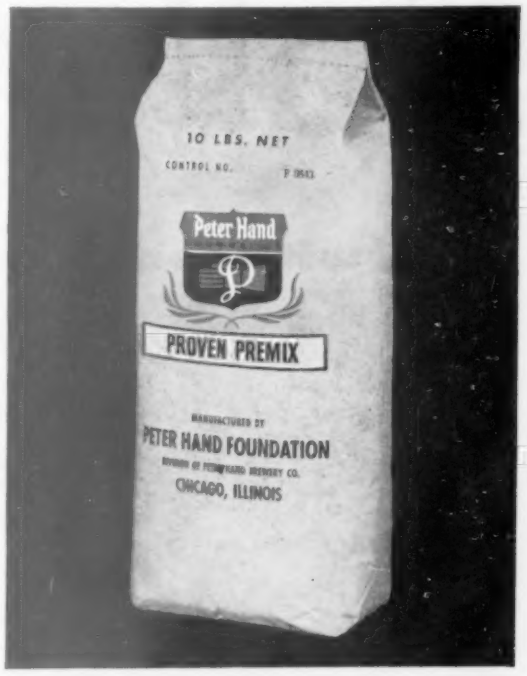

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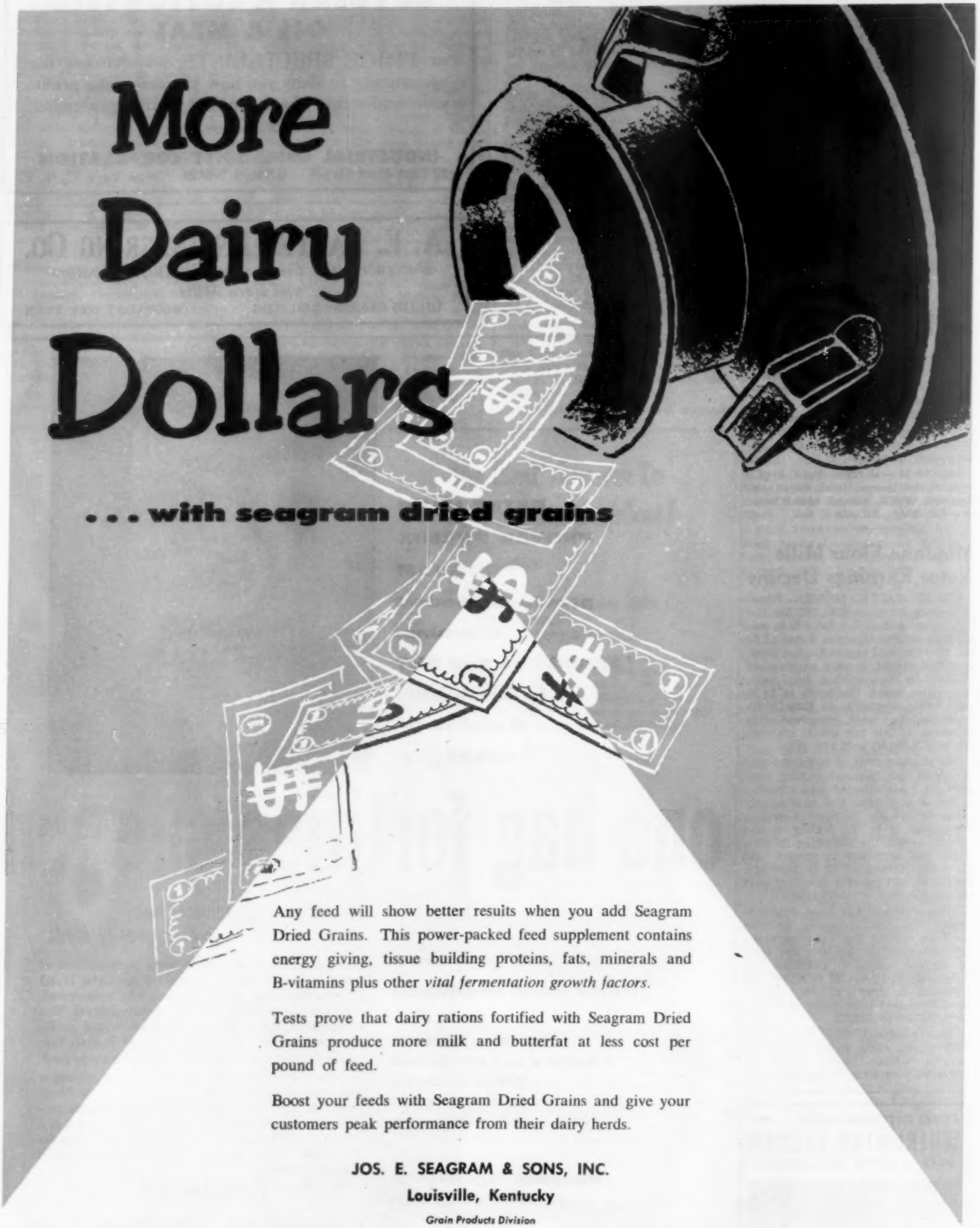

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Hay Pelleting Discussed at California Event

DAVIS, CAL. — Pelleting developments in hay making were one of the principal subjects at a recent Agronomy Field Day held at the University of California here.

Prof. John B. Dobie, who discussed the subject, said:

"Hay processed into pellets or wafers can be utilized by animals as well and in many instances better than the same hay in baled or chopped form. Mechanically, pelleting and wafering requires two to four times more power than baling, but the advantages of reduced storage space and mechanized handling and feeding should at least offset the increased power cost. Two general types of products are being produced at the present time: (1) pellets made from finely ground hay, and (2) wafers made from chopped or long hay.

"Hay pellets, ranging in size from less than ¼ to about 1 in. in diameter, and 1 to 1½ diameters in length are usually made from hay ground through a screen with holes about 1/16 in. in diameter. Pellet mill capacity is about 5 tons per hour, requiring 20 h.p. per ton of capacity. In addition 20 to 30 h.p. per ton is required for grinding. Most pelleting plants are readily adaptable to the inclusion of grains or concentrates and capacity is usually increased by the addition of such material. To facilitate grinding, hay should be very dry. Steam is used to heat and moisten the hay before pelleting, and the pellets must be cooled after pelleting. A pellet plant, including the necessary auxiliary equipment, such as steam generator, cooler, and conveyers, costs $15,000 to $20,000, less grinding equipment.

Hay Wafers

"Hay wafers are a relatively new development. Only one commercial machine is currently available, but numerous others are in the experimental stage. Hay is formed into wafers 3 to 4 in. in diameter and ½ to 1 in. thick from either chopped or long hay. Although the present machine is limited to stationary or roadside operation, some experimental machines are expected to operate in the field from windrowed hay. Stationary machines can readily handle mixed hay and concentrate feeds. Field machines may be limited to the addition of minor amounts of concentrate. Capacity of the commercial machine is rated at five to six tons per hour with 100 h.p., again about 20 h.p. per ton of output. First cost is about $35,000 including power unit plus a use charge.

"Both products are eaten readily by livestock. Bulk density of pellets is 40 to 60 lb. per cu. ft. as compared to 25 to 30 lb. per cu. ft. for most wafers. Because of their greater bulk density and flow characteristics, pellets have some advantage over wafers from a materials handling standpoint.

"It appears that both types of product have a place. Development of machines what will wafer directly from the windrow at normal baling moisture content will permit complete mechanization of the haymaking operation. Some of this hay can be fed in this form. However, the advantages of pellet feeding for some types of animals plus the further improvement in handling and storage, will likely be sufficient reasons for processing of much of the crop in pellet form."

Evaluating Hay Quality

A new method of judging the quality of alfalfa hay was outlined by James H. Meyer, animal husbandman, who said that a chemical test for crude fiber provides a reliable guide to the feed value of the hay. Used with the traditional visual examination of hay, the new method should help alfalfa growers and feeders standardize and improve quality.

Core samples of 19 bales in a lot are needed for a valid analysis of moisture and crude fiber, said Mr. Meyer. Tests at Davis show that there is a very close correlation between crude fiber and the total digestible nutrients in the hay, he told the group.

In a talk on spotted alfalfa aphid control, Ray F. Smith, Berkeley entomologist, said growers must team chemical control with natural factors that influence insect populations. Such integrated control makes full use of control forces in nature and uses chemical controls in such a way that they do not disrupt natural control.

To do this, Mr. Smith suggested two rules to follow: Do not treat any alfalfa field with any pesticide unless aphid population counts clearly demonstrate that the field is threatened with economic damage; and, when it is necessary to treat, apply selective pesticides, and at the recommended dosages.

"During this year's growing season, lady beetles did an outstanding job of holding spotted alfalfa aphid populations at subeconomic levels," he said. "As a result, very few economic infestations occurred in the Central Valley before August, and many fields have received no treatments."

Breeding aphid resistance into California alfalfa varieties was discussed by agronomist Ernest H. Stanford. While these varieties are being developed, he said, growers can plant Moapa in the desert valleys of Southern California and Lahontan in the Central Valley. Both of these varieties, though not resistant to some of the major diseases, do withstand spotted alfalfa aphid attacks.

Other talks on the program included cultural practices for quality hay, irrigating alfalfa, and alternate hay crops.

Tacoma to Double Elevator Capacity

TACOMA, WASH. — Capacity of the Port of Tacoma grain elevator will be doubled to 4 million bushels in the next several months, according to plans announced by port commissioners.

The commissioners accepted a proposal by Archer-Daniels-Midland Co., lessee operator of the elevator, for construction of a 180 by 500 ft. building near the existing elevator on a 12 acre tract recently reclaimed from Sitcum Waterway. The only reservation is that construction not start until it is determined the building will be located in a position that will not interfere with the projected bulk cargo handling facility also planned for the 12-acre site.

Under terms of the proposal, the port would expend $75,000 for the building foundation. ADM is to complete the structure. At the end of ADM's current lease, to expire in 18 years, the building will become the property of the port.

O. J. Clark, Portland, division superintendent of elevators for ADM, said the added elevator space will permit the export of an additional 6 million bushels, 36 carloads, through the elevator each year.

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Grain handling with ease, speed, and economy is our specialty! Augers 4" and up. 6-7-8" portable grain augers, special systems custom built.
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USDA Checking Interstate Cattle In Screwworm Fight

WASHINGTON—Interstate movement of livestock, especially across the southern states, is affected by U.S. Department of Agriculture regulations designed to prevent the spread of the screwworm, a destructive pest of cattle and other farm animals, the department announces. These regulations are part of a full-scale state-federal effort to eradicate the screwworm from the Southeast.

The eradication area includes Mississippi, Alabama, Georgia, Florida and South Carolina.

Among other provisions, the regulations specify that no livestock infested with screwworms shall be moved interstate for any purpose.

Inspection stations have been opened at points in Tennessee, Arkansas and Louisiana. Animals found to be infested will not be permitted to enter the eradication area until they have been freed of screwworms.

Livestock owners who intend to ship animals from any state into or through one of the states within the eradication area should contact their state or federal veterinarian for details concerning requirements for such shipments.

Federal and state officials started limited release of laboratory-reared, sterile flies in January, several months ahead of schedule, to take advantage of the hard winter which reduced screwworm infestations in the area.

The eradication program is based on the fact that the female screwworm fly mates only once. If native females mate with males sterilized by exposure to radioactive cobalt-60 they cannot reproduce. If a preponderance of sterile males can be maintained within infested areas long enough, the fly can be exterminated. Putting these principles to work, the USDA entomologists eradicated the screwworm from Curacao in the Caribbean, in 1954. Pilot operations in Florida indicate the method can also be successful there.

Release each week of some 50 million sterilized flies over a 50,000 to 60,000 sq. mi. area in Florida and adjacent states is now underway.

R. A. Rasmussen

NAMED SPEAKER—R. A. Rasmussen, Peter Hand Foundation, Chicago, will discuss "Unidentified Growth Factors — Practical Application" at the Texas Nutrition Conference to be held at Texas A&M College, College Station, Oct. 8-10.

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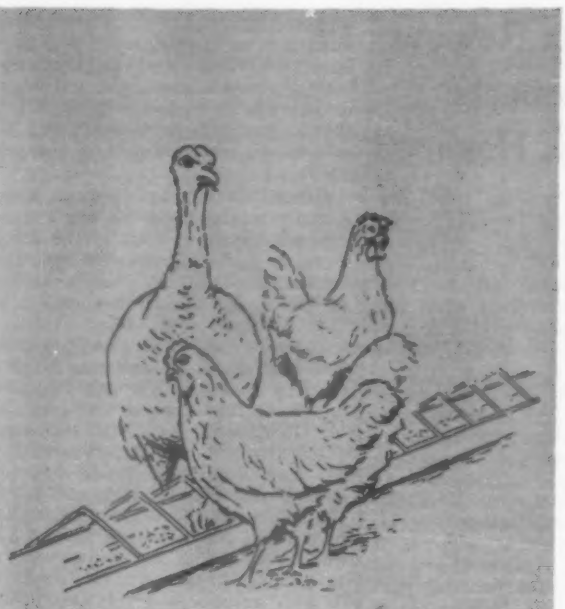

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DaweNzyme extensively tested by state experiment stations and proved commercially, is an economic boon to those where barley is available for less than corn. With DaweNzyme, barley can be the principal grain without the former penalties of lowered growth and feed efficiency, compared to corn.

DaweNzyme is easily incorporated in the feed formula. It is a dry, free-flowing, stable material. No special handling is involved and ordinary mixing procedures are followed.

While attention has been focused on barley, tests show small, but consistent, improvements in the utilization of corn itself, when supplemented with DaweNzyme.

1956 . . . **Dawe's began research and development on the application of enzymes to nutrition.**

1957 . . . **April . . . Washington State College reported starch-digesting enzymes improved nutritional value of barley in poultry feeds.**

1957 . . . **July . . . Dawe's publicly announced DaweNzyme as the first commercially available enzyme system for feed application.**

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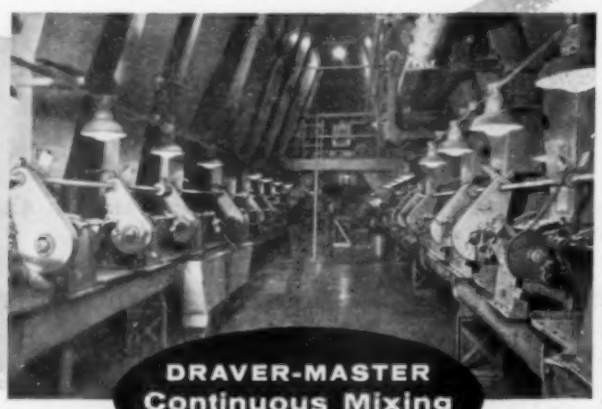

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Economists Review Profit Prospects For Cattle, Hogs

ST. PAUL—A detailed look into the profit prospects for beef cattle and hogs over the next year or so, has been offered by economists and a livestock specialist at the University of Minnesota. In a word, it's for "average" beef profits and possibly lower but "reasonable" returns for hogs in 1959.

BEEF CATTLE: Increasing cattle numbers mean prospects for profit in the beef cattle business may not be as good as they were a year ago, but the situation is still as favorable as the average year, according to Paul Hasbargen and Hal Routhe, two of the economists.

"Slaughter cattle prices should remain relatively good for the next two years. Feeder cattle will be about $4 to $7 above last year's level, because of limited numbers and strong demand which, in turn, is a result of record feed supplies, good prices for fed cattle and generally favorable profit prospects," they predict.

Fat cattle slaughter may be up slightly in 1959 but, since cow and calf slaughter will be down, fat cattle prices may be a little higher than the 1958 average. Higher prices for feeder cattle, however, mean the outlook is for somewhat lower profits, they add.

The economists advise beef producers to sell cattle when they have proper finish for their potential grade, unless it appears quite certain that prices will go up within the next month or 45 days; and that a farmer who normally pays income taxes and makes an unusually big sale after Jan. 1 would need to get $2 to $2.50 cwt. more than in November or December to cover the extra taxes. The Minnesota economists urged beef producers to buy calves when the producers are ready to use them and when feeders are moving, and pointed out that it most likely wouldn't pay to hold off in hopes of getting cheaper stock.

HOGS: Minnesota farmers were cautioned to go easy on hog expansion next year, in view of the large increase in fall farrowings expected nationally. (The 13% increase earlier estimated by USDA was raised to 17% in recent weeks.)

Farmers can look for hog prices to run from $3 to $5 cwt. less in 1959 than in 1958, said Kenneth Egertson and E. H. Hartmans, economists, and H. G. Zavoral, livestock specialist.

For the rest of 1958, however, they say hog marketing should be only slightly above 1957 levels and prices should continue favorable. The economists look for a low of around $17 cwt. at the end of the normal seasonal price downturn.

With relatively good hog prices now and low prices for grain, the present "expansion phase" in the nation's hog business will probably continue through 1959, they predict. But despite lower expected hog prices, corn prices should also remain low and efficient producers can still expect "reasonable" profits next year, they conclude.

Flock Owner Meeting

MEXICO, MO.—The Smith Chickeries & Broiler Hatchery of Mexico, Mo., and Rogers, Ark., announce a flock owner meeting here, Oct. 15.

The program will start at 10 a.m. and talks will be given on breeding management, disease and control by representatives of the Chas. Vantress Poultry Farms, Arbor Acres Poultry Farms and others, followed by a "Chick-N-Que." Some 400 to 500 flockowners and poultrymen are expected to attend.

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Two Kentucky Poultry Groups Plan Joint Meeting Oct. 12-14

LEXINGTON, KY. — The annual meeting of the Kentucky Poultry Federation and the Kentucky Poultry Improvement Assn. has been scheduled for Oct. 12-14 at the Kenlake Hotel, Hardin, Ky. Registration will be Oct. 12.

Talks on Oct. 13 will include a welcome address by E. C. Aubrey, Aubrey Feed Mills, Louisville, federation president; "Rags to Riches," by a speaker not yet confirmed; "What's Happening in Kentucky," by W. M. Insko, Jr., poultry section, University of Kentucky, and "What the Future Holds," by Miller Manford, Nixon, Texas, second vice president of the American Poultry & Hatchery Federation.

The afternoon session will begin with an address, "What the Poultry Meat Consumer Expects," by Frank Frazier, National Broiler Council, Richmond, Va. Following this will be a panel discussion on "Broilers—1959 Style." On the panel will be H. D. Weber, Arbor Acres Farm, Glastonbury, Conn.; Charles H. Hubbell, feed consultant, Chicago; Max A. Schnittker, Burnside (Ky.) Hatchery; Fred Scott, Tri-County Feed Co., Boaz, Ala., and John Faulkner, Field Packing Co., Bowling Green, Ky.

After the federation annual meeting at 3:30 p.m. and a chicken barbecue at 6 p.m., L. H. Abbott, Dr. Salsbury's Laboratories, Bowling Green, Ky., will present "Funfare."

The first address on Oct. 14 will be "What Kentucky Needs," by Dr. E. J. Nesius, associate director of agricultural extension at the University of Kentucky. A panel will follow on "Recommendations to Kentucky Producers," with panel members being Ned Grayson, Hyline Chicks, Mitchell, Ind.; Jay Young, Jr., Hinton Hatchery, Ashland, Ky.; I. R. Staples, Glenwood Poultry Farms, Perry Park, Ky., and one other panel member not yet confirmed.

The afternoon session will begin with "Federal Inspection in Dressing Plants," by William E. Hauver, U.S. Department of Agriculture. "How Disease Affects Inspections" will be a talk by Dr. Robert H. Singer, veterinarian with the Kentucky State Department of Agriculture.

At 4 p.m. the poultry improvement association will hold its annual meeting, and this will be followed by a banquet with Harold Ford, Southeastern Poultry & Egg Assn., Decatur, Ga., as toastmaster. Banquet speaker will be Dr. Ralph Woods, president of Murray State College.

Canada Sets Lamb, Hog Support Prices

OTTAWA, ONT. — Canada's agricultural prices stabilization board has announced support prices for good lambs at public stockyards in western Canada ranging from $16.30 cwt. for live animals in Alberta to $17.40 at Vancouver. Saskatchewan support prices were listed at $16.50 and Winnipeg prices at $16.80.

A support price of $19.55 for live lambs at Toronto and Montreal stockyards was announced by the stabilization board some time ago.

Also announced earlier were support prices of $22.25 cwt. for grade A dressed hog carcasses at Winnipeg and $21.50 at Saskatoon, Calgary and Edmonton.

Rutgers Offers Course In Poultry Diseases

NEW BRUNSWICK, N.J. — A course in poultry health and diseases will be given for service personnel, farmers and veterinarians at the Rutgers University College of Agriculture starting Oct. 8. Classes will be held each Wednesday for 10 weeks.

Westervelt Griffin, assistant dean of the college, said the course is being held to acquaint service personnel and others with the poultry disease problems of the state. Registration is open to anyone interested in the subject.

Dr. David C. Tudor, licensed veterinarian and a research specialist in poultry pathology at Rutgers, will be the chief instructor. The work will consist of lectures and discussions supplemented by autopsy material where possible. Fundamental aspects of disease control will be stressed.

Classes will start at 10 a.m. and end at 3:30 p.m. Once-a-week instruction was started at the college a few years ago to accommodate persons who wished technical instruction while continuing with their businesses and professions.

Further information about the course can be obtained from the office of the dean, College of Agriculture, New Brunswick, N.J.

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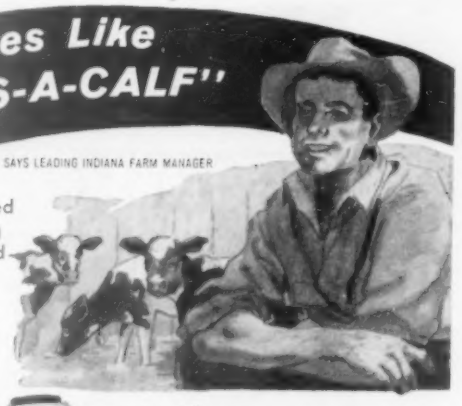

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IOWA LITTER—This litter of 20 pigs—farrowed, raised and fed in Iowa—tops all records for litter weight on the basis of six months of age, according to an announcement by its owner, Geerlings Feed Mills, Waterloo, Iowa. The litter tipped the scales at 5,245 lb. at six months. The announcement said the weights have been officially supervised from birth to six months. The 20 pigs are survivors of a litter of 22 farrowed March 3 near Cresco, Iowa. They were nursed by one sow in shifts of 10 pigs. Geerlings Feed Mills purchased the sow and litter March 20 and weaned the pigs at 17 days on the Geerlings weaning program. Weaning weights at 17 days ranged from 4 to 10 lb. Regular stock feeds were fed throughout the period from birth to six months. The pigs weighed 1,012 lb. at 56 days, 2,095 lb. at three months, 3,102 lb. at four months, 4,129 lb. at five months and 5,245 lb. at six months of age. "This litter far surpasses the known official record of 4,850 lb. for one litter," the announcement said. The pigs are now on tour of feed dealers in the Iowa, Illinois and Wisconsin area.

Mail Fraud Suspect's Trial Set for Dec. 1

MEMPHIS, TENN. — L. V. (Jimmie) Butler will have until Dec. 1 to clear up matters in connection with his cotton business before facing trial for use of the mails to defraud.

The trials of Mr. Butler and two former associates in the Alabama Grain Elevator Co. of Mobile were scheduled Oct. 13.

Judge Lester L. Cecil of Dayton, Ohio, named to hear the case after Judge Marion S. Boyd recused himself, granted the delay at the request of W. Preston Battle, Butler's attorney. Mr. Battle based his request on Mr. Butler's need for time to attend to business affairs.

The mail fraud charges grew out of a soybean deal in which Mr. Butler defrauded two large grain companies of more than $4 million. He pleaded guilty to that fraud in state court and served 18 months before being paroled.

Mr. Butler sold the grain firm's receipts which represented the vast amount of soybeans to be in his warehouses at Mobile. No beans were there.

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"Such an early interest in feed led The Quaker Oats Company to join five other companies in founding the American Feed Manufacturers Association in 1909. We began to pioneer in new feeding plans and new feed ingredients.

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"Recently we greatly expanded our research when we built a new complete nutritional laboratory. It is equipped with the finest facilities of their type in the country today. In addition, we maintain quality control facilities at our mills. Guesswork is eliminated in Ful-O-Pep Feeds.

"We know that to be successful in the growing feed business we must continue to be in a position of leadership. Our aggressive efforts to improve our feeds continue. Feed is important to our business. Ful-O-Pep is one of the largest operating divisions of The Quaker Oats Company.

"More opportunity than ever is open to you and to us in today's three and a half billion dollar feed industry. Radical changes in the nation's farm economy—larger, more specialized farms—are creating heavier demands for feeds. We are gearing up to these demands by expanding our facilities, increasing the efficiency of our feeds and by lowering production costs. We believe in the feed business.

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Man will contact research and management personnel of large feed manufacturers; will assist in training field sales representatives; knowledge of poultry and livestock diseases and poultry service work essential. College background in agriculture desired. Prefer age 30-40. Considerable travel by air, rail and automobile.

An average man will not be considered for this position, only a man with top-notch selling records and qualifications. Position offers excellent salary and incentive income, complete fringe benefits program, car and expenses.

Send complete resume immediately, including salary requirements, experience and age. Address Ad No. 4109, Feedstuffs, Minneapolis 40, Minn.

USDA Gives Latest Poultry Flavor, Tenderness Report

MEXICO CITY — An exhaustive report on the much-discussed question of flavor and tenderness of modern poultry meats was presented at the 11th World's Poultry Congress.

U.S. Department of Agriculture taste panels found that "chicken flavor has not been altered significantly by changes in poultry diets and breeds since 1930. Further, poultry tenderness depends upon proper processing."

Dr. A. W. Brant, head of USDA poultry research and U.S. delegate to the Congress, made the report on taste tests, while Dr. Hans Lineweaver, USDA scientist from California, reviewed the tenderness study at the Congress. He and Mrs. Elsie H. Dawson, USDA home economist, co-authored the flavor report presented by Dr. Brant.

(Other scientific reports from the Congress will appear later in Feedstuffs.)

Modern poultry feeds and advances in breeding, Dr. Brant explained to the Congress, now enable poultrymen to finish off market birds in about nine weeks compared with the 12 to 14 weeks required as recently as 10 years ago.

Two USDA taste panels checked on possible flavor differences between birds of modern breeds produced on a 1958 diet and those representing older strains fed diets like those used in 1930. Aim of these tests was to find out whether changes in breeding methods and diet formulations during the past three decades had changed the flavor of chickens.

Neither of the two taste panels found significant changes in poultry flavor that could be ascribed to diet or breed changes in chickens that were baked, fried, or broiled.

Taste-panel members did detect some differences in broths made from meat of the two groups of birds, Dr. Brant reported. Some of the tasters favored broth made from 3-pound chickens receiving the 1958 diet, but for 5-pound chickens they scored higher the broth made from chickens receiving the 1930 diet. However, these differences were neither numerous nor consistent enough to indicate an important flavor effect due to diet or breeding.

Comments on Tests

Commenting on the tests, Dr. Brant said, "The results suggest that reasons for any difference in flavor are not the result of changes in feed or breeding. We believe that a rise in U.S. per-capita consumption of broilers from 2.5 lb. a year in 1947 to 19 lb. in 1957 is proof enough that consumers find modern-type broilers acceptable.

"Nevertheless," he said, "we have felt it worthwhile to determine whether the many changes in the production of broilers have altered their eating quality. In making the tests, we compared for flavor broilers raised on the most modern diet with those produced on a 1930 diet.

"But, in both cases," Dr. Brant pointed out, "the broilers were killed and eviscerated according to modern procedure. The decrease in 'New York' style of processing (killed and plucked, but not eviscerated) has probably contributed much more to any flavor differences between 'modern' and 'old-style' broilers than have advances in feeding or breeding."

About 80% of the poultry now processed in the U.S. is eviscerated at time of slaughter. Flavor changes have been noted in two days in non-eviscerated "New York" dressed birds held at 35° F., and in four days these changes are substantial.

Dr. Lineweaver, in reporting research on poultry tenderness, told Congress delegates that young birds are more likely to become tough in processing than older birds.

Processing Vital

Changes in processing methods, he said, were blamed by many poultrymen for the sudden increase during the early 1950's in complaints by consumers of toughness in turkeys and chickens. Since then, a great deal of testing has been done to find out why poultry is tough or tender.

These experiments, by USDA researchers and others, have shown that young birds must be "aged," or held at least 12 hours, before freezing. Also, birds that are aged before being cut up proved more tender than those aged after cutting. The experiments showed further that severe scalding (above 125° F.) prevents normal tenderizing. Tenderization proceeds slowly in frozen birds kept at 27°F., even though this process virtually stops in poultry held at 0° F.

Other tests indicated that tenderness in poultry was not affected by exercise before killing, full feeding rather than no feeding before slaughter, killing procedure, delay between killing and scalding, or by any difference in aging between eviscerated birds and "New York" dressed birds.

The researchers concluded that tenderness in young poultry can be assured if poultry is scalded at the lowest possible temperature, mechanically picked in such a way as to keep beating to a minimum, and aged before freezing.

LIVESTOCK EXCHANGE OPENS IN CALIFORNIA

DIXON, CAL. — Howard Brown and Jim Griggs launched their Pacific Livestock Exchange at their Liberty Island Road headquarters here recently. In a manner similar to grain exchanges, they initiated the selling of fat lambs off a blackboard. In their operation, the lambs remain on the feeder's property until prearranged shipping dates send them direct to packers. Opening day activity saw a half-deck lot of grain-fed lambs topped at $22 with four decks of clover lambs selling at $21.90. A half-deck of clover lambs sold for $21.75. Six major lamb slaughterers were represented, and a good turnout of sheepmen was on hand to watch the auction. Mr. Brown and Mr. Griggs expect even a larger turnout of packer buyers later with buyers returning from Idaho, where they have been shipping lambs for the past month or so. They also expect to have a sufficient consignment of lambs to attract the buyers.

ELECTRONIC DATA PROCESSING—Richard L. Covault operates the new IBM 305 Ramac recently installed at Dr. Salsbury's Laboratories, Charles City, Iowa. The electronic data processing machine is built around a disc memory unit (visible in right background) with a storage capacity of five million characters. By simply "asking" the machine, an up-to-date report can be had on the status of inventory, production and sales in a "split second."

Dr. Salsbury Firm Installs IBM Unit

CHARLES CITY, IOWA—An electronic data processing system has been installed at Dr. Salsbury's Laboratories at Charles City. The IBM 305 Ramac has a "memory" capacity of five million characters, and can give out any of this stored information in less than a second, according to an announcement from the company.

The machine will be used to handle all of the firm's production control, inventory control and sales statistics, said Dr. John Salsbury, vice president and general manager of the company.

"Better manufacturing control, scheduling, sales analysis and sales forecasting mean that customers will have increasing assurance of an adequate supply of any product. When a product is in greater demand than anticipated, production can be adjusted immediately," Dr. Salsbury said.

He explained that, if necessary, products that are in abundant supply at one of the company's branches can be transferred to others in time to prevent inconvenience to the customer. This can be done by the up-to-the-last-transaction sales analysis. The machine will also keep an up-to-the-minute record of purchases by each customer.

Dr. Salsbury said another big help to the company and to customers is the rapid analysis of research data which the machine can do. Time to analyze complicated drug testing data can be shortened considerably. Among the several other applications of the electronic system are cost control and market research.

Dr. Salsbury's Laboratories manufactures feed additives and poultry health products and medications for swine.

Declare Stock Dividend

MINNEAPOLIS—The board of directors of General Mills, Inc., has declared a dividend of 75¢ per share on General Mills, Inc., common stock payable Nov. 1, 1958, to stockholders of record Oct. 10, 1958. This is the 122nd consecutive quarterly dividend on General Mills common stock.

Dr. O. G. Bentley Joins South Dakota State

BROOKINGS, S.D.—Dr. Orville G. Bentley, formerly with the Ohio Agricultural Experiment Station and department of animal science, Ohio State University, has been appointed dean and director of agriculture at South Dakota State College.

The appointment is effective Oct. 1.

MANAGER NAMED

BUHL, IDAHO — R. Dale Molesworth has been named manager of the Buhl Elevator Co., it is announced by C. J. Kelley, Twin Falls, division manager for Colorado Milling & Elevator Co. Mr. Molesworth succeeds Bill Mathews who has accepted a position with a Blackfoot, Idaho, grain and fertilizer firm.

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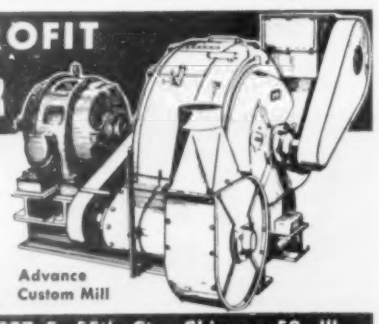
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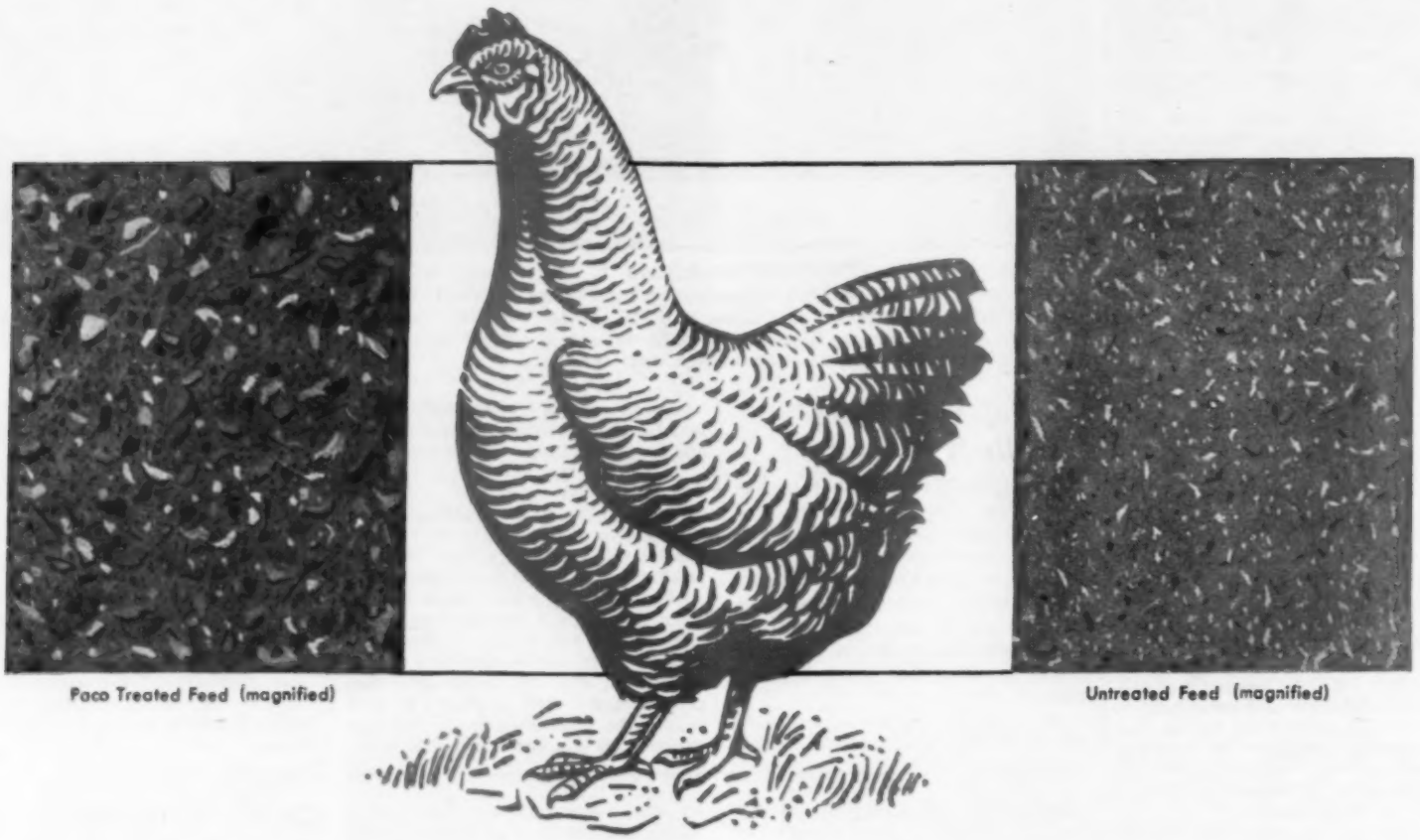
AND SHE'LL CHOOSE PACO CONDITIONED FEED



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Untreated Feed (magnified)

PACO makes the difference

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PACO Molasses Distillers Dried Solubles provides a most economical and easy method of improving the physical properties of your feeds. As Paco comes to you in moisture-resistant paper bags, it is practically bone dry and consists of tiny thin flakes that mix readily with other feed ingredients. When mixed with feeds of normal moisture content, these Paco particles attract moisture, causing the dust and fines to adhere to them. This results in a finished feed of improved texture.

A highly nutritious feed ingredient in itself—Paco supplies vitamins, trace minerals and unidentified growth factors. Its cost is surprisingly low.

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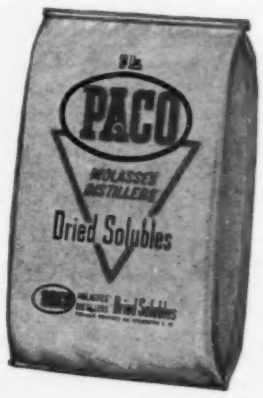

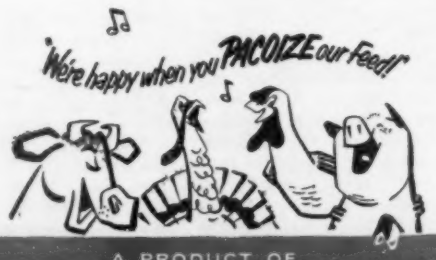

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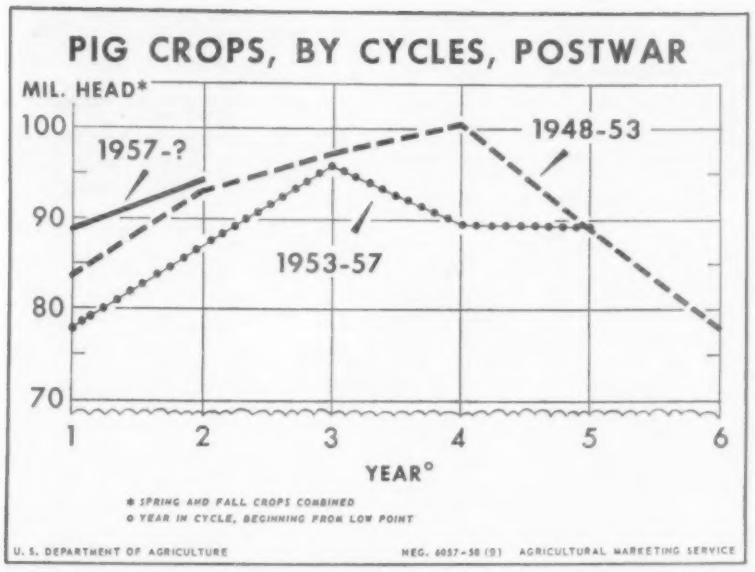

Production of hogs has shown a cyclical tendency in recent years. Upswings and downswings in annual pig crops have usually lasted two or three years. The larger pig crops of 1958, and the further increase expected in 1959, are in line with this pattern. The crops of 1959 will likely exceed 100 million head.

LIVESTOCK

(Continued from page 1)

In September, USDA pointed out, producers in nine states planned a 20% increase in December-February farrowings. (Feedstuffs, Sept. 20.) This may overstate the prospective increase in the spring total, as a further shift to early farrowing dates may be occurring. But a substantial rise in the total 1959 spring pig crop is likely.

Prices of hogs in the fall of 1959 are almost certain to drop to their lowest point since the fall of 1955. How nearly they approach that low mark depends on how much the total spring pig crop is increased. If the total crop should be up by close to the 20% indicated for the first three months of the six-month period, prices next fall would be in danger of falling to the approximately $11 or lower level they reached in the fall of 1955. If the expansion should be moderate, prices would probably remain above that low point by an appreciable margin.

If the pig crop should expand some 20%, pork supplies per person would be pushed up above the 1955 mark when there was 33.9 lb. per person.

However, a moderate increase in hog production in spring of 1959 would provide a pork supply per person higher than in recent seasons but well below the 1955 mark, meaning lower prices but not a price collapse.

Cattle Outlook

On another front, cattle inventory numbers are at the beginning of a cyclical increase. This is noted by the fact that a greater percentage reduction has occurred in calf slaughter than in cattle slaughter, a difference typical of the first stage of a cattle cycle, USDA noted.

Like last year, cattle are again slow in moving into feedlots. Until the middle of this year, shipments of feeder cattle and calves to feeding areas were above a year before. As fed cattle marketings had been small, a July 1 feedlot inventory 16% above 1957 was built up. About midyear, placements dropped below last year. They remained below until September, when they began to show an increase over last year.

As a result of these shifting trends, the cattle-on-feed inventory has probably been reduced considerably since July 1, USDA said. As of mid-September, the supply of long-fed cattle remaining in feedlots probably was fairly large. However, because of the fewer July and August placements on feed, there may be an interval late this fall when few long-feds are still available and supplies of short-feds of the new season are small. This could result in higher prices for fed cattle at this time. Of course, the longer the delay in putting placements on feed, the longer the high-price interval would last.

Feeder cattle and calf prices are likely to remain relatively steady, the USDA noted.

Dairy Products

Discussing dairy products, USDA said milk production, now in a seasonal decline, will not rise until November. CCC stocks of butter and cheese have been reduced to low levels, and it is expected that the volume of purchases of these products during the next few months will be relatively light.

The most influential factor in the levelling out of milk production this year has been the rise in meat animal prices in the past year, which has caused the sharpest annual reduction in milk cow numbers since 1948. A more recent development has been serious drouth conditions in the Upper Great Lakes states, which are heavy milk producing areas. Still, milk output for the year will approximate the record 126.4 billion lb. set in 1957. There are record large supplies of concentrates, and price ratios are favorable.

Prices to farmers for milk so far this marketing year have averaged 10¢ per cwt., or about 3%, less than last year. Prices of butter and cheese may continue above support level during most of the fall period and be nearer year-ago levels than in past months. Cash receipts to farmers for milk and its products have been running smaller this year.

Poultry and Eggs

Market supplies of eggs and poultry will be larger this fall than last, USDA noted. In mid-September, egg prices declined considerably in some wholesale markets but these prices, as well as the prices to Midwest farmers, continued at or a little above last year. However, with larger egg production in prospect for the rest of this year, egg prices in the remainder of 1958 will average below those of a year earlier.

The seasonal price rise for turkeys also is likely to be small, because of a large late hatch of poults and big storage supplies.

Continued heavy production and low prices for broilers are in prospect.

MRS. W. J. RYAN DIES

MINNEAPOLIS—Mrs. W. J. Ryan, mother of Donald Ryan, president of Ryan Feed & Grain Co., Minneapolis, died in a Minneapolis hospital Oct. 2 at the age of 76. Survivors along with Donald Ryan are three other sons, two daughters, two brothers and a sister.

Corn Products Refining, Best Foods Merge

NEW YORK—Formation of a new company through the merger of Corn Products Refining Co., New York, and The Best Foods, Inc., New York, has been approved by stockholders of the two firms. The newly created Corn Products Co. has total annual sales of over $600 million.

Details of the new company organization were announced jointly by William T. Brady, president and chief executive officer of the new enterprise, Corn Products Co., and Leonard G. Blumenschine, president of the Best Foods division of Corn Products Co.

In addition to his responsibilities as president of the Best Foods division, Mr. Blumenschine was elected to the board of directors of the new company and joins its executive committee. Aaron S. Yohalem, formerly executive vice president of The Best Foods, Inc., will continue in the same capacity with the Best Foods division and also as vice president of the new company.

The merger adds the entire line of Best Foods bulk materials to the 450 industrial bulk products already manufactured by Corn Products Refining Co. Certain feed ingredients are among the products made by Corn Products.

Wirthmore Feeds, Boston, is a Corn Products subsidiary.

The Best Foods, Inc., makes a wide variety of coconut, cottonseed, soybean, palm kernel and peanut oils used by processors of fried foods and as ingredients in the manufacture of various food products.

Best Foods plants are located in New Jersey, Illinois, Texas, California, Minnesota, Virginia, New York and Indiana as well as Ontario, Canada.

Corn Products Refining Co. plants are located in Illinois, Missouri, Texas and New York, and there are milling operations in Vermont, Massachusetts, New York, North Carolina and Illinois and dog food plants in New York and Illinois.

Albert O. Mowrer

TRAFFIC MANAGER — Albert O. Mowrer has been appointed traffic manager of National Molasses Co. He will join the staff at the company's Oreland, Pa., executive offices, and will direct traffic and transportation at National's terminals throughout the country. For the past six years Mr. Mowrer has been a traffic consultant specializing in molasses and grain rates, and has been admitted for practice before the Interstate Commerce Commission. He graduated from the University of Pennsylvania where he majored in transportation, and has taken graduate study at the Academy of Advanced Traffic in Philadelphia.

Leo S. Becker

NEW PLANS—Leo S. Becker, with The McCabe Co. of Minneapolis for 20 years, is planning to make a new company affiliation following the recent sale of McCabe assets to the Farmers Union Grain Terminal Assn., St. Paul (Feedstuffs, Sept. 20)). Mr. Becker announced that he was not continuing with the organization after the sale, which was effective Oct. 1. His future plans have not yet been announced. Mr. Becker was in management, advertising, purchasing and nutrition posts with the Star-Hi Feeds division of McCabe. For the past two years he has been director of nutrition.

Los Angeles Exchange Schedules Golf Party

LOS ANGELES—The Los Angeles Grain Exchange has started the countdown in preparation for blasting off its "LAGEP" and "IGBM's" at the Candlewood Country Club, Whittier, Cal., Oct. 17.

Although the event sounds like it should attract ardent missilemen, it is designed instead to please members of the exchange who enjoy parties and golf tournaments. "LAGEP" and "IGBM's" stand for "long awaited grain exchange party" and "individual golf ball missiles," respectively.

Using the missile and satellite theme for the coming event, the exchange's entertainment committee has scheduled the party for 7:30 p.m., and the golf tournament for noon. Price of the party is $6 and the tournament $5.

Peavey Acquires Site For Terminal Elevator

MINNEAPOLIS — F. H. Peavey & Co., Minneapolis, grain and milling concern, plans to construct a terminal elevator on the Minnesota River for barge shipment of grain to southern, eastern and export markets. Purchase of land in Valley Industrial Park on the river southwest of Minneapolis has been announced by Peavey.

F. Peavey Heffelfinger, president of the company, said that construction plans are indefinite at the present time. Selection of the site followed more than a year of comprehensive study involving at least 10 other possible locations.

The site, which covers 21.5 acres, is adjacent to the land for the future Owens-Illinois Glass Co.'s container plant. It is the second purchase of land for VIP expansion.

Mr. Heffelfinger said the final decision for the VIP site was based on its proximity to the Minneapolis grain market, its location on the river, good rail facilities and a network of expressway-type highways which will enable adequate truck movement of grain for years to come.

THE FEED MARKETS

★ ★ ★ ★

Demand — Supply — Trends — Prices

Quotations on feed ingredients shown in these and adjoining columns are wholesale prices, per ton, bagged, for prompt delivery, unless otherwise noted. They are the latest quotations available from Feedstuffs correspondents and are not necessarily those in effect on date of publication. The prices represent fair average trading values and do not necessarily represent extreme low or high levels at which individual sales might have occurred. A descriptive summary of supply and demand factors prevalent in the feed market appears on page 2.

A AND D FEEDING OIL

New York: Trend steady; price per lb. in 55-gal. drums (413 to 420 lb.): 300 ICU, 750 A 13¼@15¼¢, 1,500 A 15½@17¢, 2,250 A 17½@20¢, 3,000 A 19½@21¢; 600 ICU, 1,500 A 16@18¢, 2,250 A 18@19½¢; f.o.b. Massachusetts, New York or Pennsylvania.

Boston: Demand light; supply good; 400 D, 3,000 A 20¢ lb.; 300 D, 3,000 A 19½¢; 300 D, 1,500 A 18½¢; 300 D, 2,250 A 18¢; 600 D, 1,500 A 17½¢; 300 D, 750 A 14¾¢; 75 D, 750 A 14½¢.

Chicago: Demand fair; supply adequate; straight A feeding oil, with 10,000 units vitamin A per gram 7@8¢ a million units of vitamin A, l.c.l., packed in 55 gal. drums, f.o.b. Chicago, drums included.

Minneapolis: 10,000 A 35¢ lb.; 300 D, 2,250 A 21½¢ lb.; 300 D, 1,500 A 20½¢ lb.; 300 D, 75 A 18½¢ lb.

ALFALFA MEAL

Ft. Worth: Demand fair; supply sufficient on dehydrated, limited on suncured; 17% protein dehydrated $49, delivered Ft. Worth area, truck; Kansas dehydrated, 17%, 100,000 A $52, rail; suncured No. 1 13% protein, ¼-in. grind, truck $39.

Cincinnati: Demand fair; trend steady; supply adequate; 17% dehydrated, 100,000 vitamin A $55.50@57.50.

Philadelphia: Demand and supply fair; 17% dehydrated $54.50.

New Orleans: Demand fair; trend steady; supply adequate; $49@50; pellets $46@47.

Omaha: Demand good; supply adequate; 17% dehydrated, 100,000 A units, bulk pellets $39; sacked meal $44.

Portland: Demand slow; supply ample; trend unchanged; suncured, 15% $39; dehydrated $67.

St. Louis: Demand slow; trend steady; supply ample; 13% fine suncured $40; dehydrated, 17%, 100,000 units A $49.

Boston: Demand slow; supply adequate; dehydrated, 17% $54.50; suncured, 13% $53.

Los Angeles: Demand fair; trend firmer; supply ample; dehydrated meal, 17% protein, 100,000 A $52@53; dehydrated pellet meal, 17% protein, 100,000 A $50@51; suncured crumbles, 15% protein $45@47; suncured meal, 15% protein $43@45.

Memphis: Demand fair; trend higher; supply scarce; dehydrated, 17% protein, guaranteed 100,000 units, vitamin A $48.

Chicago: Demand fair; supply adequate; 17% dehydrated, with 100,000 units vitamin A guaranteed $50.50; 13% No. 1 fine ground $40.

Kansas City: Demand good to excellent; trend stronger; offerings are light; hay is not growing well in heavy producing areas and frost occurred this week, although it is not yet known what damage was done, many plants having to shut down because of lack of hay; dehydrated alfalfa with 17% protein and 100,000 units vitamin A guaranteed on arrival—regular meal quoted nominally at $44, sacked, although there is very little available; reground pellets $46, sacked; reground oiled pellets $48, sacked; pellets $40@41, bulk; meal with 18% protein and 125,000 units A $51, sacked; non-guaranteed A meal $40, sacked; suncured meal demand slow and orders being filled as received: No. 1 fine ground $33.50@34, No. 1 ¼-in. $31.50@32, No. 2 ¼-in. $29.50@30.50, sacked.

Buffalo: Demand and supply fair; trend higher; $59, Boston.

Minneapolis: Strong trend; good demand for high quality in late crop; production light; reground pellets $48@51; bulk granules $49; oil treated, bulk $49.

Seattle: Demand fair; trend steady; supply good; 15% protein suncured $43, delivered, truck loads; 136,000 A unit dehydrated $69, delivered, truck loads.

ANIMAL FATS (STABILIZED)

Ft. Worth: Demand fair; supply adequate; prime tallow, tank cars 7¾¢ lb.; drums 9¼¢ lb., f.o.b. north Texas packing plants with returnable drums.

New Orleans: Demand slow; trend steady; supply adequate; 8@8¼¢ lb., tank cars.

Louisville: Demand better; trend easy; supply ample; bleachable fancy 7¾¢ lb.; white tallow 8¢ lb.; yellow grease 6½¢ lb.

San Francisco: Demand fair; supply ample; bleachable fancy 8½¢ lb.; yellow grease 6¾¢ lb.

Chicago: Demand fair; supply adequate; bleachable fancy tallow, tank truck or carlots 7¾¢ lb.; yellow grease 7@7½¢ lb.

Kansas City: Demand slow; trend steady; supply adequate for demand; bleachable fancy tallow 7½¢ lb., tank car.

St. Paul: Stronger trend; advance due to soaper, feed and export buying; 7¾¢ lb. bleachable fancy tallow, f.o.b. producer's plant.

BARLEY FEED

New Orleans: Demand slow; trend unchanged; supply light; $58@59.

Philadelphia: Demand slow; supply fair; pulverized $44.50.

Portland: Demand good; supply ample; trend higher; rolled $61, ground $59.

Ogden: Supply average; rolled $43@48; whole $37@42.

Baltimore: Demand quiet; supply adequate; $44.50.

Boston: Demand steady; supply adequate; $45.50.

Los Angeles: Demand fair; trend firmer; supply ample; standard rolled $3.08 cwt., sacked; standard ground $3.08 cwt., sacked.

San Francisco: Demand fair; supply ample; rolled $59; ground $58.

Chicago: Demand quiet; supply adequate; $34.

Seattle: Demand and supply good; trend firm; $60, bulk, delivered truck lots.

BENTONITE (SODIUM)

Cincinnati: Demand steady; supply adequate; f.o.b. Cincinnati, minimum 30-ton carlots: 80 granular $31.50; 200 mesh fine $31.

Chicago: Demand steady; supply adequate; f.o.b. Wyoming and South Dakota shipping points: granular 30 mesh $16.50; fine granular, 80 to 100 mesh $13.75; powder, 200 mesh $13.50, f.o.b. Belle Fourche, S.D., minimum 30-ton carlots; 80 granular $13.50 net; 200 mesh fine $13.25 net.

BLOOD FLOUR

Louisville: Demand fair; trend steady; supply ample; $105@110.

BLOOD MEAL

San Francisco: Demand good; supply tight; $7.50 a unit of ammonia.

Los Angeles: Demand weak; trend steady; supply short; $7.75 a unit of ammonia.

Chicago: Demand and supply fair; $140, guaranteed 80% protein.

New Orleans: Demand good; trend steady; supply light; $120@125.

Portland: Demand slow; supply ample; trend weak; $120.

Ogden: Supply average; $115 in 100-lb. bags, f.o.b. Ogden.

Louisville: Demand fair; trend steady; supply ample; $105@110.

BONE MEAL (STEAMED)

Cincinnati: Demand good; trend steady; supply fair; $90, Cincinnati.

Ft. Worth: Demand fair; supply light; $85, f.o.b. Ft. Worth, local manufacture.

Louisville: Demand slow; trend easy; supply normal; $80@85.

New Orleans: Demand fair; supply normal; trend unchanged; $82@87.

Portland: Demand slow; supply ample; trend unchanged; $95.

Boston: Demand and supply steady; $90.

Los Angeles: Demand fair; trend steady; supply adequate; imported $73.50 in 20-ton lots.

San Francisco: Demand good; supply ample; $75.

Chicago: Demand and supply fair; $75.

Buffalo: Demand good; trend steady; supply ample; $90.

Seattle: Demand steady; trend firm; supply good; $85, ex-dock, truck lots.

BREWERS DRIED GRAINS

St. Louis: Demand good; trend steady; supply limited; $46.

San Francisco: Demand fair; supply ample; $54.

Boston: Demand good; supply adequate; 26% $56, 22% $55.50@56.

Los Angeles: Demand and trend steady; supply not too plentiful; $49 bulk, $53 sacked.

Chicago: Demand fair; supply adequate; 26% $46@48.50.

Philadelphia: Demand and supply fair; $58.

New Orleans: Demand good; trend steady; supply ample; 26% $51.50@53.

Cincinnati: Demand poor; trend steady; supply adequate; $53@54.

Ft. Worth: Demand fair; supply moderate; $54.40, October.

Louisville: Demand good; trend steady; supply ample; $53.

Buffalo: Demand and supply fair; trend steady to higher; $50.50, bulk, Boston.

BREWERS DRIED YEAST

Louisville: Demand fair; trend steady; supply ample; 10@10½¢ lb.

Omaha: 10½¢ lb.

Portland: Demand steady; supply ample; trend unchanged; 8½¢ lb.

San Francisco: Demand fair; supply good; 10¢ lb.

Boston: Demand and supply steady; 10¢ lb.

Los Angeles: Demand and trend steady; supply limited; 10¢ lb. in 5-ton lots; 11¢ lb. in 1-ton lots; 12¢ lb. in less than 1-ton lots.

Chicago: Demand good; supply limited; 10@11½¢ lb. in carlots; 10½@12½¢ lb., l.c.l.

Buffalo: Demand good; trend firm; supply limited; $9.85 cwt.

Seattle: Demand slow; trend steady; supply ample; $12 cwt.

St. Louis: Demand good; supply limited; 10¢ lb. in carlots; 11¢ lb. in ton lots; 12¢ lb. in less than ton lots.

Cincinnati: Carlots 10¢ lb.; 5-ton lots 11¢ lb.; ton lots 11½¢ lb.

Pittsburgh: Carlots 10¢ lb.; 5-ton lots 11¢ lb.; ton lots 11½¢ lb.

New Orleans: Carlots 10¢ lb.; 5-ton lots 11¢ lb.; ton lots 11½¢ lb.

New York: Carlots 9½¢ lb.; 10-ton lots 10¢ lb.; 5-ton lots 10½¢ lb.; ton lots 11¢ lb., f.o.b. New Jersey.

Milwaukee: Demand good; supply limited; 10½@11½¢ lb. in carlots; 10¾@12¼¢ lb., l.c.l.

BUTTERMILK-CONDENSED

San Francisco: Demand fair; supply good; $5 cwt.

Los Angeles: Demand fair; trend steady; supply adequate; 5½¢ lb. in 100-lb. lots; 4½¢ lb. in 500-lb. lots.

Boston: Demand slow; supply light; 3½¢ lb.

Chicago: Demand light; supply adequate; $3.25@3.50 cwt. in carlots.

Ogden: Supply normal; $4.40, 100-lb. drum.

New Orleans: Demand slow; supply normal; trend steady; $4.25@4.30 cwt.

Philadelphia: Demand slow; supply light; $4.25 cwt.

Wichita: Demand good; supply insufficient; $2.85 cwt.

Louisville: Demand very slow; trend steady; supply normal; $4.25 cwt.

CALCITE CRYSTALS AND FLOUR

(All prices net, including freight and tax)

New York: Crystals $15.28, flour $10.28.

Buffalo: Crystals $16.11, flour $11.11.

Toledo: Crystals $17.96, flour $12.96.

Boston: Crystals $16.63, flour $11.63.

Limecrest, N.J.: Crystals $10.50, flour $5.50.

Seattle: Demand and trend steady; supply good; $14, ex-warehouse, truck lots.

Minneapolis: Fine grind, 50-lb. bag $12.25, 100-lb. bag $11.50; bulk, boxcar $10; bulk, hopper $9.50; coarse grind $1 premium, delivered Minneapolis.

CALCIUM CARBONATE

Cincinnati: Demand fair; trend steady; supply adequate; $8@9 cwt.

Los Angeles: Demand and trend steady; supply ample; $10.25.

Chicago: Demand steady; supply adequate; fine grind, plain $9.54, 100-lb. bags; bulk, in hopper cars, fine grind $7.54; bulk in boxcars $8.04; granular grind $1 premium.

CHARCOAL

Boston: Demand and supply light; $100.

Los Angeles: Demand and trend steady; supply ample; hardwood poultry $156 sacked in less than ton lots; $144.50 sacked in ton lots.

San Francisco: Demand steady; supply ample; $141.

Chicago: Demand quiet; supply adequate; poultry charcoal $106 in 50-lb. multiwalls.

COCONUT OIL MEAL

Los Angeles: Demand fair; trend unchanged; supply limited; copra cake $73@74.

San Francisco: Demand fair; supply ample; solvent $68.50; expeller $73.50.

Portland: Demand slow; supply ample; trend unchanged; $75.

Seattle: Demand good; trend strong; supply ample; $76, ex-dock, Seattle (Philippine production).

COD LIVER OIL (FORTIFIED)

New York: Trend steady; price per lb in 55-gal. drums (413 to 420 lb.): 300 ICU, 750 A 14½@15¼¢, 1,500 A 18½@20¢, 2,250 A 18½@21¢, 3,000 A 21½@23¢; 600 ICU, 1,500 A 17½@19¼¢, 2,250 A 20@22¢, 3,000 A 22@23¢; f.o.b. Massachusetts, New York or Pennsylvania.

Boston: Demand fair; supply good; 600 D, 2,250 A 19¢ lb.; 300 D, 3,000 A 20½¢ lb.; 300 D, 2,250 A 18½¢ lb.; 600 D, 1,500 A 18¢ lb.; 300 D, 1,500 A 15¢ lb.

CONDENSED FISH SOLUBLES

New York: Demand and supply fair; trend steady; 4¾@5¢ lb., f.o.b. eastern shore.

New Orleans: Demand light; trend steady; supply limited; 50% solid $91@94, f.o.b. Gulf.

Boston: Demand good; supply short; 5¢ lb., nominal.

Los Angeles: Demand and trend steady; supply adequate; 5¢ lb.

CORN GLUTEN FEED AND MEAL

(All quotations for all cities are sacked basis, bulk basis $5 less)

Minneapolis: Feed $49.80, meal $88.80.

Atlanta: Feed $55.98, meal $94.98.

Birmingham: Feed $54.64, meal $93.64.

Boston: Feed $54.84, meal $93.84.

Chicago: Feed $43, meal $82.

Cleveland: Feed $51.14, meal $90.14.

Denver: Feed $53.51, meal $92.51.

Ft. Worth: Feed $51.96, meal $90.96.

Indianapolis: Feed $48.36, meal $87.36.

Kansas City: Feed $43, meal $82.

Louisville: Feed $50.21, meal $89.21.

New Orleans: Feed $53.20, meal $92.20.

New York: Feed $54.43, meal $93.43.

Norfolk: Feed $53.71, meal $92.71.

Philadelphia: Feed $54.02, meal $93.02.

Pittsburgh: Feed $51.96, meal $90.96.

St. Louis: Feed $43, meal $82.

CORN OIL MEAL

Cincinnati: Demand fair; trend steady; supply adequate; $51.

Louisville: Demand dull; trend steady; supply normal; $52.45.

COTTONSEED OIL MEAL

New Orleans: Demand slow; trend weaker; supply ample; $69@70.

Omaha: Demand fair; supply ample; 41% solvent $59.25, bulk, delivered.

Ft. Worth: Demand increased; supply adequate; carlots, 41% old process $56; solvent $57.60@58; pellets $2 additional; cottonseed hulls $16.

Portland: Demand slow; supply ample; trend unchanged; $67.

Philadelphia: Demand and supply fair; $71.50.

Wichita: Demand slow; supply ample; 41% old process $63.

Cincinnati: Demand poor; trend steady; supply adequate; old process $65.

Ogden: Supply normal; 41% $63@68.

Louisville: Demand fair; trend easy; supply normal; old process $63.70, new process $62.70.

Chicago: Demand and supply fair; hydraulic $53.50; solvent $53, basis Memphis.

St. Louis: Demand slow; trend lower; supply increasing; solvent $59.75.

Boston: Demand spotty; supply ample; $73.

Los Angeles: Demand slow; trend unchanged; supply adequate; expeller, new crop, Mexican $52@53; solvent meal, domestic $64@65.

San Francisco: Demand good; supply ample; expeller $61.90; 41% solvent $64.70.

Memphis: Demand light; trend steady; supply plentiful; prime 41% protein, old process $53; new process, 41% solvent $52.

Kansas City: Demand fair; trend steady; supply tight for nearby, production being held up by rains in Mississippi Valley; old process meal $54, sacked, Memphis; solvent $53@54.

Atlanta: Demand fair; trend steady; supply ample; 41% $63.

Seattle: Demand fair; trend easy; supply good; $73, delivered, truck lots, 41% expeller process.

Buffalo: Demand and supply fair; trend steady to lower; $72, Boston.

CURACAO PHOSPHATE

New York: Trend steady; ground Curacao phosphate in 100-lb. bags $48, f.o.b. cars or trucks, New Orleans, Jacksonville, Fla., or Philadelphia.

D ACTIVATED ANIMAL STEROL, POWDERED

New York: Trend steady; price per lb. in 50- and 100-lb. bags or 100-lb. drums: 1,500 ICU 8@12¢ bagged, 12@13¢ drums; 3,000 ICU 13@17¢ bagged, 17@18¢ drums; f.o.b. or delivered basis Pennsylvania, Delaware or New York.

Cincinnati: Demand fair; trend steady; supply ample; 1,500 ICU 11@12¢ lb.; 3,000 ICU 18¢ lb., warehouse.

Kansas City: Demand fair; trend steady; supply ample; 1,500 ICU 9¾@10¢ lb.; 3,000 ICU 11¼@12¢ lb., in ton lots or larger.

D ACTIVATED PLANT STEROL, POWDERED

Chicago: Demand good; supply adequate; 4,000,000 U.S.P. units per lb., 15¢ lb. in ton lots; less than ton lots 17¢ lb.; 12,000,000 units per lb., 5 tons to a carload 28¢ lb., ton lots and less 30¢ lb.

DEFLUORINATED PHOSPHATE

Tupelo, Miss.: Minimum phosphorus 13%, minimum calcium 31%, maximum fluorine .12%, $51 net ton, f.o.b. Tupelo in 100-lb. multiwall bags, $48 in bulk.

Wales, Tenn.: Minimum phosphorus 18%, minimum calcium 33%, maximum calcium 36%, maximum fluorine .18% $69.12 net ton, f.o.b. Wales in 100-lb. multiwall bags, $3 less in bulk.

Houston: Minimum phosphorus 19%, minimum calcium 32%, maximum calcium 35%, maximum flourine .19% $71.50, net ton, f.o.b. Houston, 100-lb. multiwall paper bags; $68.50 in bulk.

Coronet, Fla.: Minimum phosphorus 17%, minimum calcium 34%, maximum fluorine .17%, carload $60, truckload $60.75, net ton, f.o.b. Coronet in 100-lb. multiwall bags, $57 and $57.75 in bulk.

Cincinnati: 18% phosphorus $81, sacked; 13% phosphorus $64.98, sacked, f.o.b. Cincinnati.

DICALCIUM PHOSPHATE

Texas City, Texas: 18.5% minimum phosphorus, 21% minimum calcium, 24% maximum, granular $77.70 net ton, f.o.b. Texas City in 100-lb. multiwall bags; bulk, boxcars and hoppers, $3 net ton less than bagged material.

Columbia, Tenn.: Minimum phosphorus 18½%, minimum 25% calcium, maximum .01% fluorine guaranteed $83.25, f.o.b. Columbia, in 100-lb. multiwall bags; freight equalized with nearest producing point, carload basis; bulk $3 ton less.

Chicago: Stock food grade, 18.5% phosphorus, 20,000 lb. or more $83.25 net ton in 100-lb. papers, basis Chicago Heights, Ill., or Nashville, Tenn.; less than 20,000 lb. $93.25; 21% phosphorus, 20,000 lb. or more $94.50, basis Chicago Heights and Nashville; less than 20,000 lb. $104.50; bulk boxcars or hoppers $3 net ton less than bagged material.

Bonnie, Fla.: Minimum phosphorus 18½%, granular $83.25; freight equalized with closest producing point, carload basis.

Minneapolis: 18.5% phosphorus, 24% calcium granular or fine ground $94.10, delivered; $3 less in bulk.

Trenton, Mich.: Minimum phosphorus 18½%, maximum fluorine .03% guaranteed $83.25, f.o.b. Trenton in 100-lb. multiwalls; minimum phosphorus 21%, maximum fluorine .03% guaranteed $94.50, f.o.b. Trenton in 100-lb. multiwall bags.

Portland: Demand fair; supply ample; trend unchanged; $115.

Cincinnati: 18½% phosphorus $92@93.

DISTILLERS DRIED GRAINS

Philadelphia: Demand slow; supply light; light grains $63.50, dark grains $66.50.

Cincinnati: Demand poor; trend steady; supply adequate; by truck $59.50.

Louisville: Demand good; trend steady; supply light but increasing; for October, bourbon grains: light $57, dark $59, solubles $77.

New York: Demand good; trend steady; supply fair; light $59, bulk, Boston; dark $61, bulk, Boston, plus $5 sacked; solubles $84, sacked, Boston.

Boston: Demand fair; supply spotty; light $66@67, dark $67@68.

San Francisco: Demand fair; supply ample; solubles $85.

Buffalo: Demand fair; trend steady; supply adequate; $63, bulk, Boston.

Seattle: Demand good; trend firm; supply ample; $65, delivered, truck lots.

DRIED BEET PULP

San Francisco: Demand good; supply fair; $46.40.

Boston: Demand fair; supply adequate; $56, first half of October.

Los Angeles: Demand good; trend steady; supply ample; molasses $48.25@48.40.

Ft. Worth: Demand fair; supply sufficient; carlots, 50-lb. papers; O-N-D plain or molasses $58, delivered Ft. Worth.

Ogden: Supply normal; $38@42.

New Orleans: Demand fair; trend steady; supply adequate; $59@60.

Portland: Demand good; supply limited; trend unchanged; $50.

Buffalo: Demand fair; trend steady; supply ample; $56, sacked, Boston.

Atlanta: Demand fair; trend steady; supply ample; $63.10, October.

Seattle: Demand slow; trend steady; supply good; $45, delivered, carlots.

DRIED BUTTERMILK

New Orleans: Demand slow; supply ample; trend steady; $10@10.50 cwt.

Ogden: Supply average; $7.25, 100-lb. bag.

Louisville: Demand slow; trend steady; supply ample; 11@11½¢ lb.

San Francisco: Demand fair; supply ample; 11¢ lb.

Los Angeles: Demand fair; trend steady; supply limited; 11¢ lb.

Boston: Demand good; supply tight; 11¢ lb.

Chicago: Demand and supply fair; medium acid $10@10.25; sweet cream $10.50 cwt. in carlots.

Buffalo: Demand excellent; trend steady; supply limited; $11.35 cwt.

DRIED CITRUS PULP

Los Angeles: Demand good; trend steady; supply tighter; orange pulp: $41 bulk, $46 sacked; lemon pulp: $39 bulk, $44 sacked.

Boston: Demand slow; supply light; $49.50, f.o.b. point of shipment.

San Francisco: Demand good; supply fair; meal $52.

New Orleans: Demand fair; trend steady;

supply ample; $51.50@55.50, f.o.b. Florida.
Atlanta: Demand good; trend steady; supply limited; $56.50; meal $51.50.

DRIED SKIM MILK

New Orleans: Demand slow; trend steady; supply normal; $11.50@12 cwt.
Philadelphia: Demand slow; supply light; $12.50 cwt.
Portland: Demand good; supply ample; trend unchanged; 13¢ lb.
Cincinnati: Demand fair; trend steady; supply adequate; 10¼@10½¢ lb.
Ogden: Supply normal; $15.15, 100-lb. drum.
San Francisco: Demand and supply fair; 13½¢ lb.
Los Angeles: Demand fair; trend steady; supply adequate; 14¢ lb. in less than ton lots; 13¾¢ lb. in ton lots.
Boston: Demand and supply fair; 12¢ lb. in ton lots.
Chicago: Demand good; supply light; $10.50@10.75 cwt. in carlots.
Louisville: Demand fair; trend steady; supply ample; 11@12¢ lb.
Minneapolis: Firm trend; good demand for tight supplies; $11@12.
Buffalo: Demand fair; trend steady; supply ample; spray $10.65 cwt.; roller $11.50 cwt.

DRIED WHEY

Chicago: Demand fair; supply adequate; $5.25 cwt., f.o.b. plant.
San Francisco: Demand steady; supply good; $5.50 cwt.
Los Angeles: Demand steady; trend firmer; supply shorter; $6.16 cwt. in carloads; $6.40 cwt. in l.c.l.
Boston: Demand fair; supply plentiful; 5½¢ lb., f.o.b. plant.
Ft. Worth: Demand fair; supply adequate; carlots, standard $6, October, sacked, delivered Ft. Worth or any Texas point; $6.10, October, ton lots, f.o.b. warehouse, Ft. Worth.
Cincinnati: Demand fair; trend steady; supply adequate; $5.90 cwt.
Ogden: Supply average; $6.90, 100-lb. bag.
Louisville: Demand fair; trend firmer; supply ample; 6@6¾¢ lb.
Portland: Demand good; supply ample; trend unchanged; $6.05 cwt.
New Orleans: Demand fair; trend steady; supply ample; $5.75@6 cwt.
Philadelphia: Demand slow; supply light; $6.25 cwt.
Kansas City: Demand good; trend steady; supply adequate; $5.50 cwt., producers' plants for both regular and partially delactosed.
Seattle: Demand steady; trend firm; supply good; $6.40 cwt., ex-warehouse, l.c.l.
Minneapolis: Steady trend; fair demand; ample supply; $6.10 cwt. Other sources quote $5.50 cwt., f.o.b. producers' points for regular and partially delactosed.

FEATHER MEAL (HYDROLYZED)

Ft. Worth: Demand good; supply very limited; 85% to 87% protein $107, f.o.b. trucks, north Texas plants.
Boston: Demand steady; supply spotty; $85, f.o.b. shipping points.
Los Angeles: Demand and trend steady; supply very short; $1.25 a unit of protein.
Atlanta: Demand fair; trend steady; supply ample; $92, f.o.b. Alabama and Georgia producing points, immediate.

FISH MEAL

Ft. Worth: Demand excellent; supply very tight; Peruvian 65% protein $155, nominal, f.o.b. Houston, first half October.
Boston: Demand good; supply scarce; $138, f.o.b. eastern shipping points.
Los Angeles: Demand fair; trend easier; supply ample; local production, 60% protein $2.10@2.15 a unit.
San Francisco: Demand fair; supply ample; Peruvian fish meal $2.20 a unit of protein.
Chicago: Demand good; supply very tight; eastern menhaden fish meal, 60% protein $144@146; Gulf, nominally $144; western blended, 60% protein $2.10 a unit of protein; delivered Midwest points $167; Northwest herring-salmon blend $133@135; Canadian herring, 73% protein $2.25 a unit of protein subject to production.
New Orleans: Demand light; supply limited; trend steady; menhaden, 60% $142@143; scrap $133@134, f.o.b. Gulf.
Portland: Demand slower; trend lower; supply ample; $2.30 a unit, f.o.b. Vancouver; Peruvian $2.30 a unit, f.o.b. dock.
Louisville: Demand poor; trend stronger; supply light; $160.
Ogden: Supply normal; $2.20 a unit, f.o.b. Coast; 65% $151@153.
Buffalo: Demand tremendous; supply extremely limited; 60% protein menhaden $165, nominal, bulk; $170 sacked, nominal.
Atlanta: Demand good; trend strong; supply limited; 60% $148, nominal.
Minneapolis: Firm trend; fair demand; adequate supplies; 60% $160; herring $2.40 a unit, West Coast.
Seattle: Demand good; trend easy; supply limited; $2.40 a unit protein, ex-dock, Alaska herring.

HAY

Cincinnati: Demand poor; trend steady; supply adequate; by truck—No. 1 timothy $24; No. 1 second cutting green alfalfa $31; mixed $27; wheat or oat straw $19.
Ogden: Supply normal; $1 bale; $15 ton in field; $18 in barn.
Ft. Worth: Demand fair for alfalfa, practically nil for prairie and Johnson grass; supply sufficient; carlots, baled, No. 1 alfalfa $36@38, No. 2 $34@36; prairie, No. 2 $26@28; No. 2 Johnson grass $22@24, delivered Texas common points.
Louisville: Demand slow; trend steady; supply of good hay light; No. 1 $35; No. 2 $33; straw $20.
Philadelphia: Demand dull; supply light; $32@35.
Wichita: Demand poor; supply ample; prairie $8@10; alfalfa $10@12.
Boston: Demand and supply improving; No. 2 timothy $40@42; No. 2 red clover $43@45.
Los Angeles: Demand good; offerings moderate; U.S. No. 1 $30@32; U.S. No. 2 leafy $27@29; U.S. No. 2 green $27@28; U.S. No. 2 $24@26.
Seattle: Demand slow; trend firm; supply good; alfalfa, U.S. No. 2 green $28, delivered, truck lots.

HOMINY FEED

St. Louis: Demand fair; trend lower; supply adequate; yellow $43.
Boston: Demand fair; supply adequate; $50 in bulk for first half October.
Memphis: Demand nil; trend steady; supply ample; white $48, yellow $48.
Chicago: Demand fair; supply adequate; $44@44.50.
New Orleans: Demand slow; trend steady; supply light; $51@52.50.
Louisville: Demand dull; trend very weak; supply ample; new kiln-dried corn available for feed; $47, off $6.50.
Cincinnati: Demand good; trend steady; supply adequate; $49@50.
Kansas City: Demand slow; trend steady; supply adequate; yellow $35, bulk, $3.50 more for sacks; white $1 less.
Buffalo: Demand fair; trend lower; supply good; $49, bulk, Boston.
Seattle: Demand fair; trend easy; supply good; $55, carlots.

LINSEED OIL MEAL

Cincinnati: Demand poor; trend steady; supply adequate; new process $69; old process $75.
Ft. Worth: Demand steady; supply adequate; carlots, 34% solvent: October $74.50@75; November-December $75.50@76; pellets $2.50 premium.
Louisville: Demand fair; trend stronger; supply ample; old process $75.40, new process $68.40, both up $1.
Philadelphia: Demand and supply fair; 34% $72.50.
New Orleans: Demand slow; trend steady; supply adequate; $68.50@69.
Omaha: Demand slow; supply adequate; 34% solvent $56.30 bulk; 32% old process $63.30, Omaha basis.
Wichita: Demand slow; supply ample; 34% $74.50.
Portland: Demand fair; supply ample; trend unchanged; California $74; eastern $78.
Boston: Demand and supply light; 34% $68.
Los Angeles: Demand slow; trend steady; supply adequate; local production, 29% protein $60@61.
San Francisco: Demand fair; supply ample; $68.
Chicago: Demand fair; supply adequate; solvent $54.50; expeller $61.50, basis Minneapolis.
Kansas City: Demand slow; trend steady; supply adequate for demand; solvent meal $50@50.50, bulk, Minneapolis; old process $57.
Minneapolis: Firm trend; fair demand, adequate supply; new process $50.50; November-December $51; old process $57.
Seattle: Demand fair; trend steady; supply limited; $78, car loads, 34% protein.

MALT SPROUTS

Boston: Demand and supply limited; $42.50.
Chicago: Demand fair; supply adequate; No. 1 $44.
New Orleans: Demand fair; trend steady; supply limited; $42.50@45.
Cincinnati: Demand fair; trend steady; supply adequate; No. 1 $45@48.

MEAT AND BONE MEAL

Cincinnati: Demand good; trend steady; supply short; 50% meat and bone scraps $100.
Ogden: Supply normal; $110 in 100-lb. bags.
Ft. Worth: Demand slow; supply adequate; meat and bone, 50% $103@105, f.o.b. or delivered Ft. Worth.
Louisville: Demand fair; trend steady; supply normal; $100.
New Orleans: Demand fair; trend steady; supply average; $110@112.50.
Omaha: Demand fair; supply adequate; $110.
Wichita: Demand fair; supply sufficient; 50% $115, f.o.b. plant; 55%, no quotations, no offerings.
Portland: Demand slow; supply ample; trend weak; $2.30 a unit.
Boston: Demand light; supply good; $1.50 a protein unit; converted, 50% $87.50.
New York: Demand poor; trend steady; supply poor; 50% $85, 55% $92.50, bulk; 50% $88, 55% $95.50, sacked.
Chicago: Demand fair; supply tight; 50% protein $100.
St. Louis: Demand good; trend steady; supply adequate; $113.
Los Angeles: Demand fair; trend easier; supply ample; 50% protein $2.20@2.25 a unit.
San Francisco: Demand good; supply fair; $2.10 a unit of protein.
Kansas City: Demand good; trend steady to firm; supply fairly limited; 50% meat and bone scraps $110@110.50, sacked.
St. Paul: Firm trend; good demand; tight supply; $112@115 for 50%.
Buffalo: Demand good; trend steady; supply ample; 50% meat scraps $97.50 bulk, $102.50 sacked.
Seattle: Demand good; trend steady; supply fair; $115, ex-warehouse, 50% protein.

MILLFEED

Minneapolis: Burdensome supplies and buyers with good stocks brought a quiet market late in the week; bran $31@32; standard midds. $31.50@32.50; red dog $48@51.
Kansas City: Demand fair; trend weaker; supply adequate to ample as flour mills grind at record rate; bran $31.25@32, shorts $35.50@36.25 sacked; bran $26.75@27.50, shorts $30@30.75, middlings $29.25@30, bulk.
Wichita: Demand good; supply about offsets demand; basis Kansas City: bran $31.50@32.25, shorts $37.50@38; bran advanced $1.75 and shorts $1 compared with the preceding week.
Ft. Worth: Demand fair; supply sufficient; carlots, burlaps, prompt, bran $40.50, gray shorts $45, delivered Texas common points; $1.50 higher on bran and unchanged to 50¢ higher on shorts, compared with previous week.
Omaha: Demand fair; supply ample; bran $33, gray shorts $38.50, bulk standard midds. $33.50.
New Orleans: Demand good; trend steady; supply tight; bran $43.50@44.25, shorts $49.25@50.
Chicago: Millfeed prices advanced around $2 ton during the week ending Oct. 1, but by the end of the period some of the steam seemed to be going out of the market. The need seemed to be for nearby supplies. Quotations: bran $38@39, standard midds. $39.50@40.50, flour midds. $49@50, red dog $54@55.
St. Louis: Demand good; trend lower; supply ample; bran $36.75@37.25, shorts $41@41.50, sacked; bran $31.75@32.25, shorts $35.50@36, middlings $34.75@35.25, bulk.
Cincinnati: Demand fair; trend steady; supply adequate; bran $43.50, middlings $45.50.
Boston: Demand active; supply light; bran $48.50; middlings $50.50.
Buffalo: Resistance to high levels built up last week, creating enough oversupply of both bran and middlings to top the market off and prices declined. Both medium and large mixers and the country trade joined in the resistance. Sacked bran ended the week $1@1.50 lower, bulk ended unchanged; sacked middlings were down $2.50@3, bulk was off $1.50. Red dog was unchanged to $1 lower. Quotations Oct. 1: bran $37.50@38, standard midds. $39@39.50, red dog $56@57.50; the bulk differential on both bran and middlings narrowed from $6 to $5@5.50.
New York: Demand and supply fair; trend steady; bran $46@47, standard midds. $47.50@48.50.
Philadelphia: Demand spotty; supply ample; bran $44.50, standard midds. $49, red dog $66.
Louisville: Demand fair; trend strong; supply ample; bran $43.10, mixed feed $46.50, shorts $50.35, middlings $47.30.
Memphis: Demand poor; trend lower; supply ample; wheat bran $39, gray shorts $43, standard midds. $42.
Seattle: Demand fair; trend easy; supply ample; $42, common transit points, carlots.
Portland: Demand slow; supply ample; trend lower; mill run $41@42; middlings $8 over.
Ogden: Supply normal; to Utah and Idaho: red bran and mill run $40, middlings $45; to Denver: red bran and mill run $47, middlings $52; to California: red bran and mill run $47.50, middlings $52.50, f.o.b. San Francisco and Los Angeles.
Los Angeles: Standard mill run $46@

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TERMINAL ELEVATORS:
Kansas City, St. Louis, Chicago, Buffalo, Omaha, Toledo, Columbus, Fort Worth, Portland, Boston, Galveston, Enid, Minneapolis, Norfolk, San Francisco, Nashville, Louisville, Memphis, Houston

46.50, slower demand, easier trend, increased offerings; red bran $47.50@48, fair demand, firmer trend, lighter offerings.

San Francisco: Demand fair; supply ample; millfeed $47; red bran $47.

MINERAL FEED

Sioux City: 50-lb. mineral blocks 8.2% phosphorus $92; 7.5% phenothiazine sheep mineral blocks $4 each.

Seattle: Demand fair; trend steady; supply good; mixer mineral $45, ex-warehouse; all-purpose mineral $35, ex-warehouse.

Ft. Worth: Demand fair; supply ample; all-purpose granules $89, block $94; mineral phosphorus, 6% granules $105, block $110; cattle-sheep mineral 7% phosphorus granules $99, block $103; hog mineral phosphorus 3½% granules $38, phosphorus 2% $78 (all in 50-lb. paper bags).

Ogden: Supply average; $115 in 50-lb. blocks; $103, granular, 50-lb. bags.

Wichita: Demand good; supply sufficient; all-purpose with iodine, 50-lb. blocks $95; 100-lb. bags $90, f.o.b. plant.

Portland: Demand good; supply ample; trend unchanged; $42.

San Francisco: Demand steady; supply good; all-purpose with iodine $70.

MOLASSES

Ft. Worth: Demand fair; supply sufficient; blackstrap 16¢ gal., f.o.b. Houston; delivered Ft. Worth, truck $36.06, seller's market price on date of shipment.

New Orleans: Demand fair; trend steady; supply ample; 15¢ gal., tank cars and trucks; 600-lb. customers' drums $9.62.

Seattle: Demand fair; trend steady; supply good; $26, f.o.b. Seattle, tank car lots or truck lots.

Cincinnati: Demand fair; trend steady; supply adequate; 14¢ gal., New Orleans.

Louisville: Demand fair to good; trend steady; supply ample; 14¢ gal., tank car lots, f.o.b. Gulf ports.

Boston: Demand slow; supply plentiful; 18½¢ gal. in tank cars.

Los Angeles: Demand good; trend steady; supply adequate; $25 bulk, f.o.b. tank cars; $25.25 bulk, f.o.b. tank trucks.

New York: Demand and supply good; trend steady; blackstrap 18¢ gal., tank cars, tank wagons, f.o.b. New York.

San Francisco: Demand and supply good; $25, f.o.b. cars, Richmond, Cal.

St. Louis: Demand slow; trend steady; supply ample; 14¢ gal., New Orleans.

Memphis: Demand better; trend steady; supply adequate; blackstrap 14¢ gal., tank car, f.o.b. New Orleans and $30, delivered, truck, Memphis.

Atlanta: Demand good; trend strong; supply practically exhausted; citrus $22.50, bulk, f.o.b. Florida producing points, immediate.

Buffalo: Demand fair; trend steady; supply good; 13½¢ gal., f.o.b. Albany.

Kansas City: Demand slow; trend steady; supply adequate; 14¢ gal., tank car, New Orleans.

NIACIN

New York: Trend steady; $8 kilo, 10-kilo lots; $8.20 kilo, 5- and 2½-kilo lots; $8.30 kilo, 1-kilo lots; freight prepaid or paid to destination.

OAT PRODUCTS

Louisville: Demand slow; trend steady; supply ample; reground $20.80; rolled oats $33.30; feeding oatmeal $77.30; pulverized $49.30; crimped $55.30.

Minneapolis: Steady trend; good demand; ample supplies; feeding rolled $77; pulverized $42@43; feeding oatmeal $68; reground $13@15; crimped $54.

Seattle: Demand fair; trend firm; supply ample; $49, bulk, truck lots.

Boston: Demand good; supply fair; white pulverized $55@56; reground oat feed $19@20.

Chicago: Demand fair; supply adequate; reground oat feed $14; fine ground feeding oatmeal $70; feeding rolled oats $79@80.

Los Angeles: Demand fair; trend steady; supply adequate; pulverized, local production $60.

Memphis: Demand poor; trend steady; supply ample; 3½% protein, reground oat feed $18.75.

Ft. Worth: Demand slow; supply sufficient; oat millfeed $44.70; reground oat millfeed 3% protein, sacked $22.70.

Cincinnati: Demand poor; trend steady; supply adequate; reground oats $22; pulverized white oats $48; rolled oats $82.

Philadelphia: Demand slow; supply fair; pulverized white $52.50; Canadian oat feed $25.50; domestic oat feed $24.

Portland: Demand slow; supply ample; trend unchanged; rolled $61; ground $58; cleaned $60.

OYSTER SHELL

Seattle: Demand and trend steady; supply good; eastern $35, carlots.

New Orleans: Demand good; trend steady; supply plentiful; $15@16.50.

Portland: Demand good; supply ample; trend unchanged; western $34, eastern $38.50; granite grit $26, shell flour $24.

Cincinnati: Demand fair; trend steady; supply adequate; $23.45.

Louisville: Demand and supply good; trend steady; in 80-lb. paper bags $22.85, 50-lb. paper bags $23.10, 25-lb. paper bags $25.35.

Los Angeles: Demand and trend steady; supply ample; $14.80.

Boston: Demand and supply steady; $25 in paper.

San Francisco: Demand fair; supply ample; local $15, eastern $26.

PEANUT OIL MEAL

Atlanta: Demand fair; trend steady; supply limited; 45% $66.

PEAT MOSS

New York: Demand and supply good; trend steady; Canadian 7 cu. ft. bale, veneer wrapped $3.32, f.o.b.; German 7½ cu. ft. bale $2.87, at dock, New York.

San Francisco: Demand fair; supply ample; $3.75 bale.

Seattle: Demand poor; trend easy; supply good; $2.70 bale, truck lots.

Los Angeles: Demand fair; trend steady; supply adequate; Canadian 6.1 cu. ft. bales $3.85.

Boston: Demand and supply steady; $3.15 bale in carlots.

Chicago: Demand fair; supply adequate; $3.60@3.70 standard 7½ cu. ft. bale.

Philadelphia: Demand slow; supply light; $2.90 bale, f.o.b. pier.

Portland: Demand slow; supply ample; trend unchanged; $3.25 bale.

POTASSIUM IODIDE, U.S.P.

Cincinnati: Demand good; trend steady; 90% KI in calcium stearate or carbonate mixtures, 250-lb. drums $1.35; 200 lb. in 100-lb. drums $1.35; 100-lb. drum $1.38; 25-lb. drums $1.41, f.o.b. Cincinnati.

Chittenango, N.Y.: Demand good; supply adequate; 90% KI stabilized with calcium stearate, 200-lb. in 100-lb. cartons $1.35; 100-lb. cartons $1.36; freight prepaid to destination.

POULTRY BY-PRODUCTS

Atlanta: Demand fair; trend steady; supply ample; $108, sacked, f.o.b. Alabama and Georgia producing points, immediate.

Ft. Worth: Demand good; supply very limited; 55% protein $112.50, f.o.b. north Texas plants.

Boston: Demand fair; supply tight; $109, f.o.b. shipping points.

Los Angeles: Demand fair; trend easier; supply adequate; $1.85 a unit of protein.

RIBOFLAVIN

New York: Trend steady; feed grade (in feed supplements) 4½¢ gm. in 3.36 to 16 gm./lb. mixtures, freight prepaid or paid to destination.

Cincinnati: Trend steady; feed grade (in feed supplements) 4¢ gram in less than ton lots in 3.36 to 16 gm./lb. mixtures; 3¢ in ton lots or more, freight prepaid or paid to destination.

RICE BY-PRODUCTS

Ft. Worth: Demand fair; supply tight; carlots, rice bran, nominal $33@34, f.o.b. south Texas rice mills; hulls $2, f.o.b. mills.

Los Angeles: Demand fair; trend steady; supply adequate; bran, California production, high fat content $48.

Atlanta: Demand fair; trend steady; supply limited; bran $44.

San Francisco: Demand fair; supply ample; bran $40; polished $49.

SCREENINGS

Buffalo: Demand and supply fair; trend steady to higher; ground, $29.50, New York, lake and rail; unground, bulk $23.50, New York.

Chicago: Demand fair; supply adequate; ground grain screenings $30; Canadian, bulk $20.

Ft. Worth: Demand almost nil; supply sufficient; ground $28, nominal.

Cincinnati: Demand fair; trend steady; supply adequate; ground screenings $34, malt house $27, sacked; Canadian $25, in bulk.

Minneapolis: Supplies continue light; demand off a little from recent levels; lights $1@8, mediums $9@20, heavies $21@30; Canadian bulk $15; Canadian ground $24; flaxseed screenings $33; oil-type flaxseed screenings $40, basis 15%.

SOFT PHOSPHATE WITH COLLOIDAL CLAY

Atlanta: $20.40@20.67.
Buffalo: $25.31@25.45.
Chicago: $24.77@24.90.
Cincinnati: $23.47@23.60.
Des Moines: $25.23@25.35.
Kansas City: $24.85@25.
Memphis: $22.20@22.47.
Minneapolis: $25.92@26.06.
Philadelphia: $24.32@24.95.
St. Louis: $24.14@24.27.

SORGHUMS

Ft. Worth: Demand fair; supply sufficient; rains delaying harvest on south plains; carlots, bulk, No. 2 yellow milo $2.10@2.12, delivered Texas common points.

Los Angeles: Demand and trend steady; supply ample; milo $2.27½.

SOYBEAN OIL MEAL

St. Louis: Demand slow; trend lower; supply ample; 44% $69.

Boston: Demand good; supply adequate; 44% $60, 50% $70, both bulk, Decatur.

Los Angeles: Demand slow; trend unchanged; supply ample; $88.50@89.50.

San Francisco: Demand fair; supply ample; $88.50.

Decatur: An active demand for nearby shipment of soybean oil meal pushed prices upward in the central states during the week ending Oct. 1. Very little trading beyond the next two weeks is being done, however, as new crop meal is expected to be available by then at reduced prices. Quotations: 44% protein soybean oil meal, bulk, unrestricted, basis Decatur $60@62; eastern restricted $59@60.50; 50% bulk, unrestricted, basis Decatur $71@71.50; eastern restricted $70.

Memphis: Demand fair; trend lower; supply scarce; prime 44% solvent $69, f.o.b. Memphis.

Ft. Worth: Demand good for October, slow forward position; supply very tight for prompt shipment; carlots, 44%: $81.50 week of Oct. 6, $79.50 week of Oct. 13, $77.50 last half October, $73.50 November-March coupled; 50% protein: $89 week of Oct. 6, $87 week of Oct. 13, $84.50 last half October, $81.50 November-March coupled; truck meal, 44% $78.50@80.50, prompt.

Cincinnati: Demand fair; trend higher; supply adequate; $65, bulk, Decatur.

Ogden: Supply normal; $81@86.

Atlanta: Demand fair; trend steady; supply ample; 44% $74.

Seattle: Demand and trend steady; supply ample; $95, delivered, carlots.

Minneapolis: Weak trend; no demand as new crop approaches; 44% $54, bulk, Decatur; $51 next week.

New Orleans: Demand slow; trend steady; supply adequate; $70@71.

Omaha: Demand slow; supply ample; 44% $66.90.

Wichita: Demand good; supply insufficient; 44% $73, 50% $83, f.o.b. Wichita.

Portland: Demand good; trend higher; supply limited; October $54.50, November-December $47.50, f.o.b. Decatur.

Kansas City: Demand fair; trend steady with forward lower; supply fairly tight, offerings to be more liberal next week; meal for Kansas City and western shipment $59 for this week, $54@55 for next week, bulk, Decatur; unrestricted meal $58@58.50.

TANKAGE

Wichita: Demand fair; supply sufficient; 60% $117.50, f.o.b. plant.

Omaha: Demand fair; supply adequate; $112.

St. Louis: Demand good; trend steady; supply adequate; $113.

St. Paul: Firm trend; good demand; tight supply; $107@112 for 60% digester.

Chicago: Demand and supply fair; 60% protein $108.

Kansas City: Demand fairly good; trend steady to firmer; supply on the limited side though demand is being met; 60% digester $110@113, sacked.

Cincinnati: Demand good; trend steady; supply very short; 60% digester $107.50.

Ft. Worth: Demand fair; supply light; 60% digester $107@109, f.o.b. Ft. Worth.

Louisville: Demand slow; trend steady; supply normal; 60% $105.

New Orleans: Demand fair; trend steady; supply light; $122@126.

VITAMIN E FEED SUPPLEMENT

Cincinnati: Demand good; trend steady; any quantity in 100-lb. drums $1.50; in 25-lb. drums $1.55; freight allowed to destination.

Rochester, N.Y.: Demand and supply good; trend steady; 100-lb. drums $1.70 lb., 25-lb. drums $1.75 lb., f.o.b. manufacturing plants, freight allowed and goods insured to destination.

New York: Demand and supply good; trend steady; 100-lb. drums $1.70 lb., 25-lb. drums $1.75 lb., f.o.b. manufacturing plants, freight allowed and goods insured to destination.

WHEAT GERM MEAL

Chicago: Firm trend; very good demand; extremely tight supply; $110.

Buffalo: Demand fair; trend higher; supply poor; commercial grade $105, nominal, sacked, f.o.b. Buffalo.

New Orleans: Demand good; trend strong; supply adequate; $105@107.

"Eggtober" Rally Set For Oct. 17 in Chicago

CHICAGO—The Chicago Mercantile Exchange is making final plans for an "Eggtober" rally to stimulate increased use of eggs and egg products, it was announced here by the Exchange's public relations committee.

This special program will be held in connection with the National Poultry, Butter and Egg Assn.'s annual convention at the Hotel Sherman, Chicago, Oct. 17, at 3:30 p.m. The session will be conducted in cooperation with the "National" and with the Poultry and Egg National Board, the industry's consumer education and promotion arm, a spokesman said.

Expanded production of eggs is creating the need for new and increased uses. A panel of speakers will approach the subject of how to increase egg consumption from all phases of distribution, merchandising and promotion, and include specific ideas on how to prepare and serve new egg dishes.

The Egg Rally will be open to everyone in the egg industry and those who serve the industry.

Agency Appointed

DES MOINES — The Supersweet Feeds division of International Milling Co., Des Moines, has announced the appointment of Wesley Day & Co., Inc., Des Moines, as its advertising and public relations agency. With general offices at 1850 East Euclid Ave., Des Moines, Supersweet Feeds has eight plants in Iowa, Minnesota, Nebraska, Illinois and Kansas. Announcement of the Day agency appointment, effective Oct. 1, was made by O. L. Miller, advertising manager for Supersweet Feeds.

EASTERN

(Continued from page 1)

processes toward a much-talked-about consolidation of New England egg marketing cooperatives. In addition to recommending that Eastern States members prepare the way for the merger, the directors set Nov. 20, 1958, as the date for a special meeting of the members of the association.

Currently participating in merger plans are: Brockton Cooperative Poultry Producers, Inc., Avon, Mass.; Connecticut Poultry Producers, Inc., Hamden, Conn.; Eastern Connecticut Poultry Producers, Inc., Providence, R. I.; Hamden Cooperative Poultry Auction, Inc., Hamden, Conn.; New Hampshire Egg Producers Cooperative, Derry, N.H.; Springfield (Mass.) Cooperative Auction Marketing Assn., Inc., and Willimantic (Conn.) Poultry Assn., Inc.

W. D. Milsop, general manager of Eastern States, said, "In this special meeting Eastern States members will vote on by-law amendments to permit our cooperative to include marketing as well as cooperative purchasing and distribution."

Although Eastern States was incorporated in 1918 with a charter that covered marketing as well as cooperative purchasing and other services for farmers, in the course of its development the cooperative became exclusively a purchasing enterprise. Its by-laws were written to cover only this phase of cooperative operations. The proposed amendments would authorize a marketing service parallel to the present farm supply purchasing service.

The annual volume of the egg marketing cooperatives currently participating in the merger discussions totals about $15 million; Eastern States distributes about $85 million worth of feeds, fertilizers, seeds, agricultural chemicals and miscellaneous farm supplies annually—including distribution in Pennsylvania, Maryland and Delaware in addition to all the New England states.

The merger idea was first explored by an informal committee representing the management and boards of directors of the eight associations under the chairmanship of William H. Prigmore, Eastern States assistant general manager. Farm papers throughout the East have rated the prospective merger as the biggest New England agricultural news in a quarter century.

McMILLEN

(Continued from page 4)

on which formula instructions for the electronic control panel are prepunched.

With the exception of a few low-percentage ingredients, all materials are received, stored and handled in bulk form. Finished products can be shipped in either bagged or bulk form at 100% of rated capacity.

Collaborating in the design of the plant were McMillen engineers and Sprout, Waldron & Co., Inc., Muncy, Pa., which also furnished most of the equipment.

Commenting on the opening of the new mill, Dale W. McMillen, Jr., said that while the company is the largest soybean processor and has a large grain operation, the feed business is the "hub" of the company wheel.

McMillen operations in Iowa began with a feed warehouse in Cedar Rapids in 1956, and further growth, it was explained, brought construction of the new plant. The new mill is "just the beginning for Des Moines and Iowa," Mr. McMillen said.

Jack Chappell, formerly at the company's Decatur, Ind., plant, is manager of the new Des Moines plant.

(A more detailed description of the new plant will appear in Feedstuffs later.)

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BOXCARS

(Continued from page 1)

in railroad carloadings here will put us in trouble up to our ears."

"With any upturn, we'll have the most serious boxcar shortage we've ever had," one executive said. "We'll have to cut production here and shift it to GLF mills in other parts of the country that may have cars available. It isn't only a shortage of cars. The condition of the cars we get is terrible. I've never seen anything to match it. We've had to repair car floors and patch the sides so feed wouldn't run out. We're thinking about sending a bill to the railroads for car repairs."

A General Mills, Inc., executive also said a small increase in carloadings, with the further tightening of boxcar supplies that would develop, "probably will mean mill production cuts in Buffalo. Many of the cars we get are not fit for grain or flour," he declared.

Mr. Catanzarite said AAR could divert boxcars from other parts of the county to Buffalo, but it would probably result in shortages elsewhere. He said that the Great Lakes Regional Advisory Board adopted his motion at a meeting in Toledo criticizing railroads for permitting the supply and condition of boxcars to drop to such a low point and urging the railroads to correct the condition. He said the total national boxcar supply has dropped 1,000 cars in the last year to around 730,000. The 1,000 cars were old units that were retired, he said.

Freight Rates Cut on Soybean, Cottonseed Meal Within the South

MEMPHIS—New reduced railroad freight rates on cottonseed oil meal and soybean oil meal within the South have been announced.

The rates, published Sept. 26, will become effective Nov. 5.

An average reduction of 40% will be in effect for 40-ton cars, which are used most by the trade, according to J. B. McGinnis, traffic consultant for the Memphis Board of Trade.

Mr. McGinnis said that railroads initiated the action for rate reductions under SFA Submittal 34748 several months ago. A number of hearings were held on the matter.

Rates just published apply not only to Memphis, but all mills in the South to other southern points.

Memphis reduced rates, as an example, show:

Memphis to—	20-ton car	40-ton car
Macon, Ga.	48¢	38¢
Atlanta	41¢	33¢
Augusta, Ga.	53¢	42¢
Tampa, Fla.	64¢	51½¢
Birmingham, Ala.	29¢	23¢

ADDS WAREHOUSE SPACE

SCOBEY, MONT.—The Farmers Elevator of Scobey is awaiting early completion of new warehouse facilities for expansion of its feed, seed and chemical line of supplies.

PENNSYLVANIA

(Continued from page 1)

Md.; William L. Jamieson, Robert Jamieson & Sons, Fredonia, and Dean F. Miller, Miller Feed & Implement, Stewartstown.

"It is a human failing to think of things of the present as being commonplace," Dr. L. E. Jackson, dean of the College of Agriculture, Pennsylvania State University, said in introducing his discussion, "Looking Ahead in Agriculture."

"The present is truly fantastic when compared with the past just as the new days of tomorrow will be fantastic as compared with today. I wish to subscribe to the principle that agriculture is a dynamic field. Those who would like to turn back the clock or have agriculture 'settle down' at the most can only furnish a drag on progress," Dr. Jackson said.

Dr. Jackson presented a number of illustrations to indicate expected changes in agricultural technology, management, education and promotion from producer to consumer.

Technology: Radioisotopes have an enormous potential impact upon agricultural and food production through the impact on all aspects of biological research. Radiation processing of foods will be concerned with anti-germination, de-infestation, pasteurization and sterility.

Industrialization of photosynthesis, the process of plant growth in the presence of sunlight, could greatly affect agriculture. Production of algae on a commercial basis, if scientists are successful in their efforts, could yield 10 to 30 tons an acre (dry weight) more than half of which would be protein.

The technology of sex control in connection with artificial insemination of livestock will be a practical operation in a few years.

Management: We happen to be in a most exciting and rapidly changing period in managerial relations in agriculture. Production and marketing integration in agriculture is receiving widespread attention. While integration has occurred many times during the past years, there are certain forces at work now which are giving it great acceleration in various forms.

The first is the impact of improved agricultural technology. Along many lines it is just not possible for the individual farmer to use more power and new technologies in a small operation and at the same time be efficient and make profits. This means larger operations and new managerial relations. Often such enlargements require both vertical and horizontal integration to achieve the desired ends. One possibility in this field is development of "cow milking pools," which have started in a few places in the U.S.

Also, a basic change in the principles of farm production and marketing affects management. The old principle is based on the farmer producing what he thinks he can sell. The new principle is for him to produce on contract what someone else thinks he can sell.

The specifications come, in the final analysis, from the housewives, who are looking for something more than just food. They want "built-in maid service." Such services are wanted because the wage equivalent for kitchen food preparation is very low as compared to job or position wages, and Miss and Mrs. America are working girls. The growth of supermarkets reflects the needs of these consumers.

For many tomorrows you will find contracts arising from the food retailing industry. These contracts will specify what consumers want in vast and specific quantities. The contract pattern reaches back to wholesaler, processor and eventually the farmer. Feed men will be contracting with farmers to furnish them with some of what they need to fill their contracts.

Strong programs of education and promotion will continue, and government will play an important role in necessary regulatory activities, research and education, Dr. Jackson said.

Planning Process

Dr. Richard Phillips, associate professor of economics and sociology, Iowa State Colleges, Ames, presented the outline of his main points on a flannel board in discussing "The Planning Process in Feed Mill Management."

The management of a local mill is trying to accomplish both an economic service to customers and net earnings for the owner of the business, and managerial skill comes through thoughtful practice, he said.

Dr. Phillips described the functions of management under three main headings, although he arranged them in a circle to illustrate the close relationship between activities conducted under each. These are:

1. Management planning, or determining the course and how one is to get there. This includes also plans for execution of decisions.

2. Management direction, which requires a leadership ability that goes beyond just telling employees what to do. It includes delegation of responsibilities and policy determination so that employees do not have to ask the boss about everything they do.

3. Managerial control, which is the supervisory function of checking on performance and evaluation of it.

Managers of local mills, he said, have these areas of responsibility: Organizational structure of the business, long-range planning, inventory management, employee administration, retail trading, plant and facility supervision, wholesale trading, retail credit, custom services, customer relations, accounting, reporting, budgeting and business finance. Attention to these builds a solid wall of business management, Dr. Phillips said.

The following five steps are inherent in decision-making, he said, and none can be skipped: Recognize the problem (Is it a problem or is it a symptom?), recognize workable alternatives, assemble pertinent information, evaluate the alternatives, formulate a conclusion and put it in terms of action.

Management Workshop

Four classrooms were in session for the mill management workshop portion of the program, with each discussion conducted twice. The following subjects were covered:

CREDIT CONTROL — Sanford C. Wise, manager, dealer money management, Ralston Purina Co., St. Louis: Credit is extended to build sales, but it costs money to extend credit and the cost must be counted and controlled. It costs as an expense and as an investment. Expense costs include bookkeeping, statment forms, stationery, postage, interest, time, outside collection costs and bad debt losses.

The investment cost is sometimes overlooked until a dealer is pinched for cash. Why hire two accounts receivable dollars to do what one can do?

Control of credit is needed to keep expense and investment costs reasonable. Credit extension costs even with good control, and it costs excessively with poor control.

In action, control means selection of customers, having an understanding with them and following up of all accounts. There must be definite policies, a plan and machinery for carrying them out.

Policies should include selling for cash when possible, extension of credit only to reliable customers, having only one credit manager, selling the shorter terms (which are well defined), determining when to shut off credit and deciding such things as whether interest is to be charged or if cash discounts are to be allowed. Let customers know what the policies are.

In selection of credit customers, size them up for character, capacity and capital. They should be investigated in advance from all available sources.

Understanding between the dealer and customer is the heart of credit control. The dealer should let the customer know he is happy to extend the privilege of buying on credit but he must be able to count on the customer's cooperation in paying at an agreed upon time. This brings in most of the payments on time and paves the way for collecting. Follow-up should be prompt and systematic.

BULK DELIVERY — A NECESSARY EVIL OR A PROFIT-MAKER?—George Allhusen, bulk specialist, Beacon Milling Co., Cayuga, N.Y.: The discussion opened with a showing of some projection pictures of bulk delivery installations and equipment which Beacon had made. Beacon has found the "combination" bulk truck the most economical to operate. This type of truck is equipped with an auger conveyor which permits the feeding of bulk materials to a pneumatic pick-up unit mounted at the rear of the truck bed. The truck, usually of the van-body type, makes it possible to haul mixed loads of feed packed in bags and bulk. The body may be compartmented to keep the different feeds from becoming commingled.

Pneumatic delivery of feed from the truck to the farmer's bins is the difference in successful bulk movement. Feed dealers should urge their customers to build sufficient feed storage capacity to permit delivery on enough feed to carry them from two to three weeks.

PROFITABLE CUSTOM FEED MILLING—Dr. Richard Phillips: The pricing policies for custom grinding and mixing by feed mills seemed to be pretty generally one of following the competition rather than each miller pricing the service on the basis of his own costs.

Seven topics could be discussed under this heading: What are reasonable charges? Reduction of milling costs. Mobile mills. Operation of grain banks. Custom pelleting. Relation of custom milling to bulk delivery. Relation of custom milling to contract financing.

(When the program was opened up for discussion with audience particl-

Chicks Placed in Principal Broiler Areas

(000's omitted)

Week ending	Maine	Conn.	Penn.	Ind.	Ill.	Mo.	Del.	Md.
July 26	1,157	592	952	959	173	749	1,928	1,976
August 2	1,155	548	953	903	156	704	1,935	1,921
August 9	1,142	557	895	993	179	755	1,929	1,795
August 16	1,180	603	924	880	210	728	1,907	1,831
August 23	1,124	657	827	851	194	671	1,668	1,853
August 30	1,071	623	940	886	180	643	1,759	1,798
September 6	1,022	600	938	870	226	628	1,493	1,930
September 13	1,070	536	758	864	142	583	1,566	1,763
September 20	878	513	692	752	180	562	1,371	1,714
September 27	1,009	551	680	732	152	495	1,450	1,789

Week ending	Va.	W. Va.	N.C.	S.C.	Ga.	Fla.	Ala.	Miss.
July 26	1,391	657	2,699	397	6,204	219	2,955	2,037
August 2	1,361	624	2,655	349	6,018	233	2,800	2,041
August 9	1,329	669	2,660	366	5,819	224	2,748	1,910
August 16	1,374	649	2,493	363	5,718	192	2,753	1,813
August 23	1,301	652	2,478	346	5,360	200	2,571	1,695
August 30	1,163	639	2,395	337	5,093	171	2,417	1,649
September 6	1,188	537	2,337	275	4,879	202	2,366	1,658
September 13	1,138	589	2,341	321	4,648	215	2,391	1,553
September 20	1,015	497	2,329	292	4,573	151	2,293	1,600
September 27	1,059	423	2,245	332	4,602	178	2,239	1,649

Week ending	Ark.	La.	Texas	Wash.	Oregon	Calif.	Total 22 areas 1958	Total 22 areas 1957
July 26	3,074	456	2,406	420	161	1,081	32,663	28,388
August 2	2,979	438	2,353	313	156	1,090	31,685	27,510
August 9	2,934	443	2,282	388	179	1,049	31,246	27,055
August 16	2,778	392	2,196	374	205	978	30,541	26,625
August 23	2,816	457	1,948	359	165	905	29,098	25,934
August 30	2,587	373	1,869	344	125	824	27,886	25,490
September 6	2,381	395	1,898	359	168	878	27,218	25,228
September 13	2,283	400	1,740	342	176	916	26,335	25,028
September 20	2,165	355	1,618	249	193	821	24,803	24,298
September 27	2,242	309	1,469	287	175	829	24,896	24,134

E. O. Boyer

ADMINISTRATOR — E. O. Boyer was recently appointed vice president and administrator of the flour, feed and oilseeds operations of General Mills, Inc., Minneapolis, announced Charles H. Bell, president. Mr. Boyer was previously in charge of the Sperry division of General Mills, Inc., with headquarters in San Francisco. (Feedstuffs, Sept. 27.)

pation, the millers spent all the allotted time talking about how much to charge for the service.)

There seemed to be almost unanimous agreement among the millers that custom grinding and mixing is a money-losing business, taken by itself, but if it were regarded as a selling cost for the concentrates sold by the mill to the farmer, custom milling and mixing did increase sales volume and profits.

One dealer remarked that custom grinding and mixing was an essential service, adding that "the store that has only bagged feed is not a very busy place."

Prices for the service were found to vary somewhat, with most of the millers agreeing that 25¢ cwt. was the going price for pick-up, grinding, mixing and delivery within a reasonable distance from the mill. Some dealers told of an additional pick-up and delivery charge beyond a five-mile radius of the mill. A charge of 10¢ cwt. was mentioned as the going price for mixing grain and concentrates not bought from the miller.

PRICING AND DISCOUNT POLICIES—Dr. C. A. Becker, professor of agricultural business management, Pennsylvania State University: Pricing changes must be approached from the standpoint of what they do to the profit formula, N=MV—C (N—net profit, M—margin, V—volume, C—cost). It is necessary to have accurate records of business transactions, including sales totals and costs by departments.

Before making price changes, some experimenting with pricing policies should be done to determine what effect they will have on over-all returns. (Dr. Becker presented several problems involving quantity discounts and discounts for cash to illustrate the type of information needed and the method of calculating potential results. These include estimates of the effect changes under consideration would be likely to have on volume.)

Attitude Training

"I feel strongly that too much stress in sales training is placed on knowledge and skills, too little on attitudes," Jeff Coats, president, Professional Sales Training Co., Akron, Pa., told the group at the wind-up session.

"The nucleus of selling ability is an emotionally mature attitude. Too few salesmen have it—and the blame must be shouldered by men who train salesmen," he said.

These questions, he said, must be considered in talking about the importance of attitudes:

1. What are the factors that cause the development of a healthy, positive attitude—an emotionally mature attitude?

2. How do you change a negative, fearful attitude into a healthy, positive attitude?

3. How do you supplement and strengthen weaker attitudes?

4. How do you modify a warped but still positive attitude?

Mr. Coats quoted this statement from a business educator: "To have a mature attitude, the salesman must know that selling is not a trick or mysterious process available only to a few who are born to have it, nor is it related to deception. He must know that selling involves a gain to both parties of the sales unless there is a fraud or deceit or force."

In stressing knowledge and skill, sales trainers have administered tried methods which are effective, Mr. Coats said. Other categories, attitudes and habits, which are so closely related by cause and effect, should be treated with variations of the same sales training methods, he said.

"Pitifully few salesmen consider their work an accepted, highly-regarded profession or themselves professional people," he said. These few have arrived at the realization that, as professional men, they are providing a valuable service.

"Possessing the proper attitude, a salesman will seek and retain knowledge. With proper guidance, he will develop the selling skills required in the use of this knowledge. He will be enthusiastic and will yearn for maturity, being a man of integrity. He will discover pride and happiness within his profession.

"Thus, attitude is the deciding factor in selling ability."

At the luncheon session Sept. 27, Ivan Boxell, Danville, Pa., newspaper publisher, reported his views on international developments gained on a recent 27,000-mile trip across Asia with other newsmen. "We came back panicky because we learned that Americans are disliked by the mass of people in these countries," he said.

Nutrition Conference

The animal nutrition conference made up the final morning's session of the convention. Three Pennsylvania State University professors discussed poultry topics, and Dr. W. M. Beeson, professor of animal nutrition, Purdue University, reviewed "The Changing Mood in Livestock Nutrition."

"You will have more responsibility for nutrition in the years ahead as feeding practices call for changing of the natural habitat of animals," Dr. Beeson said.

In 10 years, beef cattle diets are likely to be as complex as poultry diets are now, he said. Advances in poultry nutrition were made rapidly as a result of confining of the birds.

Dr. Beeson also commented that "we have not tapped the ultimate reproductive capacity of hogs," which could be 20 or 25 pigs per litter. More automation in feeding on farms will develop, with television circuits enabling farmers to watch stock at a distance. Controlled environments, particularly for swine, will be used extensively for production, he said, since it has been shown that animals produce more efficiently when kept under ideal conditions.

"Present protein requirements are high because of the imperfect balance of amino acids, and when costs of amino acids get into line there will be more supplementing of protein sources. Lysine is rapidly coming into the picture," he said.

Reviewing some recent feeding experiments, Dr. Beeson said that tests appear to indicate that hygromycin doesn't have a growth effect but is a good wormer. Some antibiotics have lost their former effectiveness in stimulating swine growth, apparently as a result of changes they have made in the type of bacteria present in the animals, he said. Mixtures of antibiotics now appear to be best, which was not true a few years ago.

Iron requirements for baby pigs are higher than previously thought, Dr. Beeson said. Recent tests indicate that 100 p.p.m. produces better daily gains and improves efficiency of pigs. Also, phosphorus in swine diets should be emphasized more.

Dr. Beeson reported that less growth response is obtained from pelleted high quality roughages than from pelleted low quality roughage.

Egg Quality

Ways to improve the quality of eggs were reviewed by Prof. H. H. Kauffman, chairman poultry husbandry extension department, Penn State. He pointed out that egg income in Pennsylvania made up $131 million of the total $185 million received by farmers for all poultry products and thus eggs are of major importance to Pennsylvania agriculture.

Quality of eggs deteriorates as each season wears on toward summer, he noted, and application of the elements of good farm-to-market handling could help offset this. Needed are farm cooling rooms with ample room (some of the best rooms are in old-fashioned caves), smooth walls that can be scrubbed down to get rid of molds and bacteria and efficient handling all the way to consumers to preserve quality.

More competition for eastern egg producers developed a few years ago as midwestern producers sought to replace what they had lost on the West Coast, Dr. Werner J. Mueller, assistant professor of poultry husbandry, said. "Unless we produce large lots of quality eggs, competition will be even keener," he said.

"We know what we have to do to get quality. The problem has been application," he continued.

Studies of the effect of nutrition on egg albumen quality have not revealed practical applications in this field yet, Dr. Mueller said. Storage conditions remain the most important influence on albumen quality, although incidence of respiratory disease and age of hens also influences quality.

He recommended that eggs from first-year layers be packed separately from those from second-year hens to avoid downgrading of the entire lot.

Dr. Mueller commented that eggs with dark yolks show poorer grades in candling, although actual quality isn't changed. Yolk mottling is not caused by just one factor, he said.

Poultry Disease

Control of poultry disease was the topic of Dr. Robert F. Gentry, veterinary science department. He urged that diagnostic laboratories be used as much as possible when disease problems develop. "This is a help to both the poultryman and to researchers," he said. Six are located in the state in principal growing areas.

An accurate history is needed to make a proper diagnosis, and three to six live birds with disease symptoms should be brought to the laboratory rather than just dead birds. It is important, too, that the poultryman himself accompany the serviceman to the laboratory as he can provide more detailed information about conditions on his farm.

"It is most important that diagnosis be made by highly-trained personnel," Dr. Gentry stressed. "Laboratory staffs have these qualifications."

Dr. Gentry said that he was looking for "the top to blow off" one of these days because many poultrymen have stopped vaccinating for Newcastle as a result of reports of few breakthroughs. "Don't stop vaccinating because a neighbor happens to be lucky," he said.

Research in poultry disease diagnosis, involving use of black light under a microscope to detect several types of antibodies, promises to speed up diagnosis considerably, Dr. Gentry reported. Also, he said that work is underway which promises to greatly improve vaccination procedures.

SOYBEAN

(Continued from page 6)

loan level. The report said prices during most of the 1958-59 marketing year will not exceed the loan level by any substantial margin unless the fats and oils situation changes greatly.

As usual, the report said, soybean prices will be affected later in the season by the size of foreign crops. Current prospects indicate that the world output of fats and oils probably will increase slightly and set a record, but reasonably reliable estimates for these crops will not be available for two or three months.

Cottonseed meal output in the 1958-59 marketing year beginning Aug. 1 is forecast at around 2,185,000 tons, up about 235,000 tons from the previous season. Current prospects indicate that prices during October-December, 1958, may average slightly higher than the $53 ton (bagged, Memphis) a year earlier. Prices in mid-September were $7 higher than a year earlier.

The large supply of high protein feed, due mainly to increased production of soybean meal, will put pressure on cottonseed meal prices, the report said. The demand and price for cottonseed meal also will be affected by better hay and pasture conditions in the South and continued large supplies of competitive feed grains.

USDA Reports Price Support Investments

WASHINGTON—The U.S. Department of Agriculture has reported that as of July 31, 1958, investment of the Commodity Credit Corp. in price-support programs amounted to $7,045,647,000.

The total amounts to loans outstanding of $1,681,770,000 (including $358,789,182 of loans financed by lending agencies), and the cost value of inventories, $5,363,877,000.

As of July 31, 1957, the investment was $7,276,535,000, of which loans outstanding amounted to $1,955,438,000, and inventories, $5,321,097,000.

Two feed commodities were among those accounting for a major portion of the July 31, 1958, loan total—387,387,506 bu. of corn at $497,905,361, and 28,653,684 bu. of barley at $24,744,502.

Among the major items in the CCC inventory as of July 31 were: Corn, 1,026,032,594 bu. at $1,860,400,878; grain sorghum, 170,519,289 cwt. at $393,499,465; barley, 83,594,644 bu. at $91,643,078, and soybeans, 16,317,009 bu. at $36,283,362.

FEED MAN RECUPERATING

KANSAS CITY—William F. Butterley, in charge of millfeed sales for Commander-Larabee Milling Co. in Kansas City, is confined to his home where he has been ordered to rest for three to four weeks. He was hospitalized briefly for treatment of a heart ailment before being confined at home. In his absence, L. J. Flora, who retired from Commander-Larabee several years ago, is filling in.

MARKETS

(Continued from page 2)

year-end are predicted to be considerably above the going price at this time.

Hog feeds and poultry feeds have been moving very well with cattle feeds also good. Dairy feeds are beginning to pick up more each week and this trend is expected to continue for some time. Feed prices have remained steady to slightly lower, according to most reports, and are expected to continue to decline during the coming weeks.

Broiler prices are at mostly 15¢

lb. f.o.b. farms in the north Georgia broiler production section, with baby chick placements declining weekly. Placements were down 5% below the same week last year for the last reporting period from the north Georgia area.

Some feed lot operators report that they are beginning to make rather heavy sales of fattened animals and expect their operations to be reduced over the next few months while others are at the opposite extreme and are increasing their feeding operations rapidly. Based on most reports, there is a good underlying demand in the present market for future supplies, but buyers are holding off in most instances, expecting lower cost price as the season progresses.

Central States

September was a fine month for feed manufacturers, industry spokesmen reported at the end of the week ending Oct. 1. All seasonal feeds moved well, and in some cases record tonnage figures for the month were chalked up.

And, with the number of animals on feed, indications are that October also will be a good month. Hog tonnage is holding up well and broiler feeds also are moving well.

Manufacturers note they do not have a large, if any, order backlog. This hesitancy to stock up indicates a price drop is expected as the harvest season progresses. A moderate price drop occurred last week, although not significant.

South Central

Formula feed demand is probably a shade better this week. Production is up slightly as a few mills added an extra Saturday run. Others found little change in their business and continued with their regular five-day shifts.

Order backlogs are small, most mills are operating on just what comes in each day. Many dealers seem to be holding back on their buying, ordering only for their immediate requirements, while waiting for prices to be adjusted to the new crop basis.

Best demand is in hog feeds where the entire line, pig, sow and hog feeds, is moving. An upturn to higher levels is not far away. Good pastures limit the need for cattle and dairy feeds at present. Egg mash sales are increasing at a slow rate. A turn to frosty weather could mean a big improvement in this department. Turkey feeds are past their peak demand and little more tonnage can be expected from this source.

Ohio Valley

Formula feed sales increased substantially this week, and prospects appear excellent for a continuing upswing in sales volume during coming weeks. Broiler feeds are in especially heavy demand, while sales of hog and turkey feeds are now in heavier tonnages than at any previous time this fall.

Helping the business improvement was the sharp drop in temperatures this week, with light frosts being reported in some valley areas. While it is yet too early to expect killing frosts, it is evident that the hot, midsummer weather which prevailed much later than usual this year, has now departed. As a result, pasturage will deteriorate rapidly from now on, with consequent improvement in mixed feed requirements.

While bumper crops of all farm feeds, excepting hay, have been harvested throughout the valley area, some manufacturers are discounting this factor as a hindrance to formula feed sales, because of the now generally accepted fact that prepared feeds insure more and faster weight increases in all types of farm animals than do field feeds.

With wide varieties of formula feeds now moving out in steadily increasing tonnages, area mills are increasing production, with some plants working seven days around the clock. It now appears certain that total volume this year at valley plants will be well ahead of output last year, with one manufacturer estimating volume increase at a healthy 20% when final figures are compiled.

Pacific Northwest

Pacific Northwest feedstuffs quotations averaged lower last week during trading which saw the demand almost entirely for immediate and prompt shipment supplies. Many buyers and users continued to follow a hand-to-mouth policy and were inclined to closely watch market developments.

Cottonseed meal listings led the downward price march by slipping $2 to $4 ton while wheat millfeed values were off $1 ton with soybean meal quotes cut $1 to $2 ton and fish meal prices down 5¢ a protein unit.

Whole corn price tags lost $1 ton or more while milo sold as much as $4 below the previous period's close. Dehydrated alfalfa was the only ingredient that failed to follow the downward trend in that it gained $1 a ton during the week.

Formula feed sales were maintained by most quarters at Seattle and Portland with a good turkey and broiler mash business reported. There continued to be a moderate movement of dairy feeds from most mills.

Small downward adjustments in prices for high energy feed quotations were noted as the reflection of recent declines in prices for high protein concentrates and whole corn.

Producer paying prices for frying chickens reached a new seasonal low of 15¢ at Willamette Valley, Ore., ranches as the reflection of lower markets at major southern states producing sections.

Higher California turkey prices caused most Portland area processors to advance producer paying prices ½¢ lb. with A grade young hens bringing growers 31¢ at the close, with toms selling to 26¢.

Fed steers sold at unchanged listings during last week's North Portland livestock market trading with choice grades bringing $26.25@27.50.

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